SAMSUNG

User Manual

320BX
400BX
460BX

The color and the appearance may differ depending on the product, and the specifications are subject to change without prior notice to improve the performance.

BN46-00029C-02

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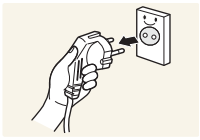
Cleaning

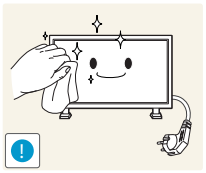
Exercise care when cleaning as the panel and exterior of advanced LCDs are easily scratched.

Take the following steps when cleaning.

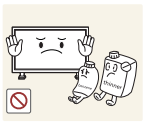


1. Power off the monitor and computer.
2. Disconnect the power cord from the monitor.

   Hold the power cable by the plug and do not touch the cable with wet hands. Otherwise, an electric shock may result.

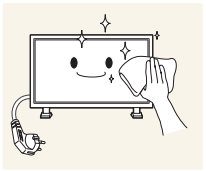


3. Wipe the monitor with a clean, soft and dry cloth.

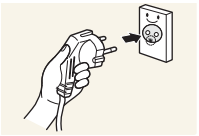


- Do not use detergents that contain alcohol, solvent or surface-active agents.

- Do not spray water or detergent directly on the product.



4. Wet a soft and dry cloth in water and wring thoroughly to clean the exterior of the monitor.



5. Connect the power cord to the monitor when cleaning is finished.
6. Power on the monitor and computer.

Storage

High-glossy models can develop white stains on the surface if an ultrasonic wave humidifier is used nearby.

Contact Customer Service Center if the inside of the monitor needs cleaning (service fee will be charged).

Safety Precautions

CAUTION
RISK OF ELECTRIC SHOCK DO NOT OPEN
CAUTION : TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). THERE ARE NO USER SERVICEABLE PARTS INSIDE. REFER ALL SERVICING TO QUALIFIED PERSONNEL.

	This symbol indicates that high voltage is present inside. It is dangerous to make any kind of contact with any internal part of this product.
	This symbol alerts you that important literature concerning operation and maintenance has been included with this product.

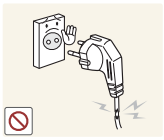
Symbols

Warning	A serious or fatal injury may result if instructions are not followed.
Caution	Personal injury or damage to properties may result if instructions are not followed.
	Activities marked by this symbol are prohibited.
	Instructions marked by this symbol must be followed.

Electricity and Safety

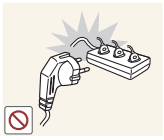
The following images are for reference only. Real-life situations may differ from what is shown in the images.

Warning



Do not use a damaged power cord or plug, or a loose power socket.

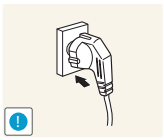
- An electric shock or fire may result.



Do not use multiple products with a single power socket.

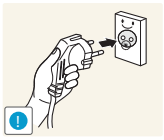
- Overheated power sockets may cause a fire.

Do not touch the power plug with wet hands. Otherwise, an electric shock may result.



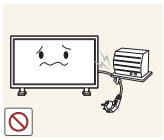
Insert the power plug all the way in so it is not loose.

- An unsecure connection may cause a fire.



Connect the power plug to a grounded power socket (type 1 insulated devices only).

- An electric shock or injury may result.

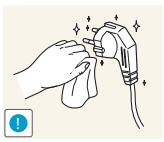


Do not bend or pull the power cord with force. Be careful not to leave the power cord under a heavy object.

- Damage to the cord may result in a fire or electric shock.

Do not place the power cord or product near heat sources.

- A fire or electric shock may result.



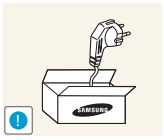
Clean any dust around the pins of the power plug or the power socket with a dry cloth.

- A fire may result.

Caution

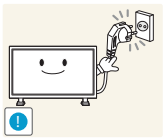
Do not disconnect the power cord while the product is being used.

- The product may become damaged by an electric shock.



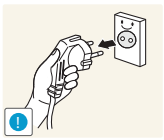
Only use the power cord provided with your product by Samsung. Do not use the power cord with other products.

- A fire or electric shock may result.



Keep the power socket where the power cord is connected unobstructed.

- The power cord must be disconnected to cut off power to the product when an issue occurs.
- Note that the product is not completely powered down by using only the power button on the remote.

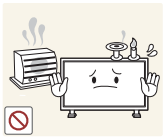


Hold the plug when disconnecting the power cord from the power socket.

- An electric shock or fire may result.

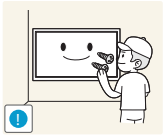
Installation

Warning



DO NOT PLACE CANDLES, INSECT REPELLANTS OR CIGARETTES ON TOP OF THE PRODUCT. DO NOT INSTALL THE PRODUCT NEAR HEAT SOURCES.

- A fire may result.

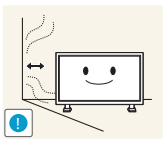


Have a technician install the wall-mount hanger.

- Installation by an unqualified person can result in an injury.
- Only use approved cabinets.

Do not install the product in poorly ventilated spaces such as a bookcase or closet.

- An increased internal temperature may cause a fire.



Install the product at least 10cm away from the wall to allow ventilation.

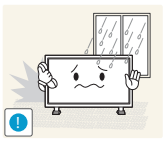
- An increased internal temperature may cause a fire.

Keep the plastic packaging out of the reach of children.

- Children may suffocate.

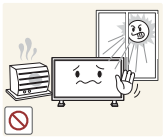
Do not install the product on an unstable or vibrating surface (insecure shelf, sloped surface, etc.)

- The product may fall and become damaged and/or cause an injury.
- Using the product in an area with excess vibration may damage the product or cause a fire.



Do not install the product in a vehicle or a place exposed to dust, moisture (water drips, etc.), oil, or smoke.

- A fire or electric shock may result.



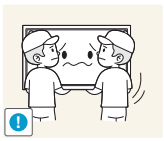
Do not expose the product to direct sunlight, heat, or a hot object such as a stove.

- The product lifespan may be reduced or a fire may result.

Do not install the product within the reach of young children.

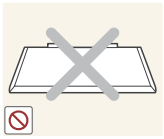
- The product may fall and injure children.
- As the front is heavy, install the product on a flat and stable surface.

Caution



Do not drop the product while moving.

- Product failure or personal injury may result.

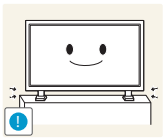


Do not set down the product on its front.

- The screen may become damaged.

When installing the product on a cabinet or shelf, make sure that the bottom edge of the front of the product is not protruding.

- The product may fall and become damaged and/or cause an injury.
- Install the product only on cabinets or shelves of the right size.



Set down the product gently

- Product failure or personal injury may result.

Installing the product in an unusual place (a place exposed to a lot of fine particles, chemical substances or extreme temperatures, or an airport or train station where the product should operate continuously for an extended period of time) may seriously affect its performance.

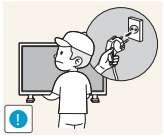
- Be sure to consult Samsung Customer Service Center if you want to install the product at such a place.

Operation

Warning

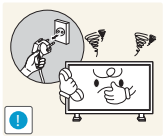
There is a high voltage inside the product. Never disassemble, repair or modify the product yourself.

- A fire or electric shock may result.
- Contact Samsung Customer Service Center for repairs.



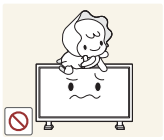
Before moving the product, turn off the power switch and disconnect the power cord, antenna cable and all other connected cables.

- Damage to the cord may result in a fire or electric shock.



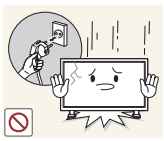
If the product generates abnormal sounds, a burning smell or smoke, disconnect the power cord immediately and contact Samsung Customer Service Center.

- An electric shock or fire may result.



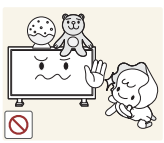
Do not let children hang from the product or climb on top of it.

- Children may become injured or seriously harmed.



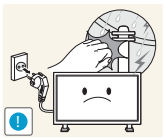
If the product is dropped or the outer case is damaged, turn off the power switch and disconnect the power cord. Then contact Samsung Customer Service Center.

- Continued use can result in a fire or electric shock.



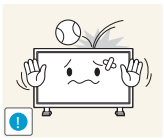
Do not leave heavy objects or items that children like (toys, sweets, etc.) on top of the product.

- The product or heavy objects may fall as children try to reach for the toys or sweets resulting in a serious injury.



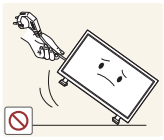
During a lightning or thunderstorm, remove the power cord and do not touch the antenna cable.

- A fire or electric shock may result.



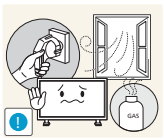
Do not drop objects on the product or apply impact.

- A fire or electric shock may result.



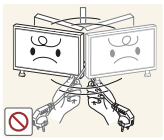
Do not move the product by pulling the power cord or any cable.

- Product failure, an electric shock or fire may result from a damaged cable.



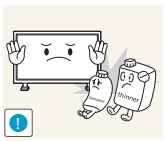
If a gas leakage is found, do not touch the product or power plug. Also, ventilate the area immediately.

- Sparks can cause an explosion or fire.
- Never touch the power cord or antenna cable when thunder or lightning is present.



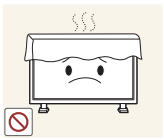
Do not lift or move the product by pulling the power cord or any cable.

- Product failure, an electric shock or fire may result from a damaged cable.



Do not use or keep combustible spray or an inflammable substance near the product.

- An explosion or fire may result.



Ensure the vents are not blocked by tablecloths or curtains.

- An increased internal temperature may cause a fire.

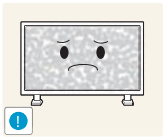
Do not insert metallic objects (chopsticks, coins, hairpins, etc) or objects that burn easily (paper, matches, etc) into the product (via the vent or input/output ports, etc).

- Be sure to power off the product and disconnect the power cord when water or other foreign substances have entered the product. Then contact Samsung Customer Service Center.
- Product failure, an electric shock or fire may result.

Do not place objects containing liquid (vases, pots, bottles, etc) or metallic objects on top of the product.

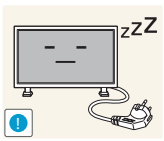
- Be sure to power off the product and disconnect the power cord when water or other foreign substances have entered the product. Then contact Samsung Customer Service Center.
- Product failure, an electric shock or fire may result.

Caution



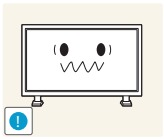
Leaving the screen fixed on a stationary image for an extended period of time may cause afterimage burn-in or defective pixels.

- Activate power-saving mode or a moving-picture screen saver if you will not be using the monitor for an extended period of time.



Disconnect the power cord from the power socket if you do not plan on using the product for an extended period of time (vacation, etc).

- Dust accumulation combined with heat can cause a fire, electric shock or electric leakage.

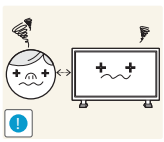


Use the product at the recommended resolution and frequency.

- Your eyesight may deteriorate.

Do not hold the monitor upside-down or move it by holding the stand.

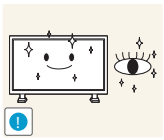
- The product may fall and become damaged or cause an injury.



Looking at the screen too close for an extended period of time can deteriorate your eyesight.

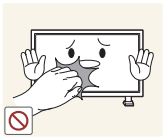
Do not use humidifiers or stoves around the product.

- A fire or electric shock may result.

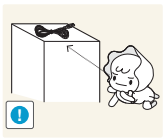


Rest your eyes for more than 5 minutes for every 1 hour of product use.

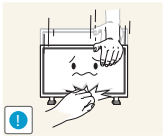
- Eye fatigue will be relieved.



Do not touch the screen when the product has been turned on for an extended period of time as it will become hot.



Store small accessories out of the reach of children.



Exercise caution when adjusting the product angle or stand height.

- Your hand or finger may get stuck and injured.
- Tilting the product at an excessive angle may cause the product to fall and an injury may result.

Do not place heavy objects on the product.

- Product failure or personal injury may result.

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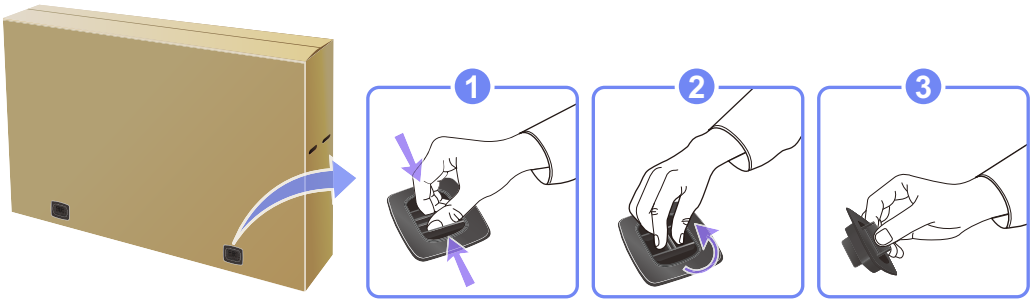
1 Preparations

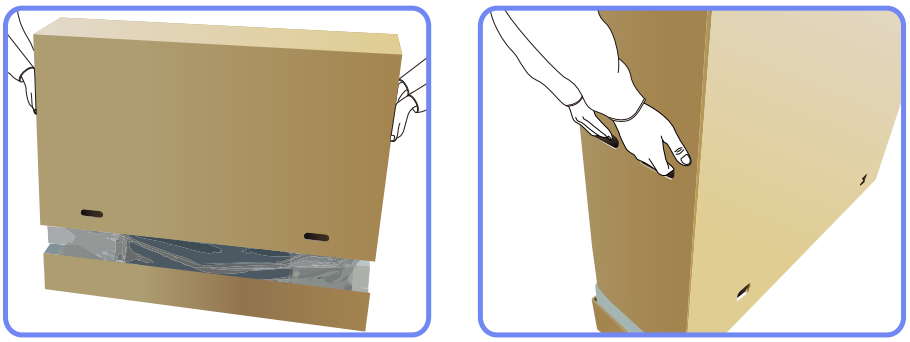
1.1 Checking the Contents

1.1.1 Removing the Packaging

1 Remove the black locking device at the bottom of the box.

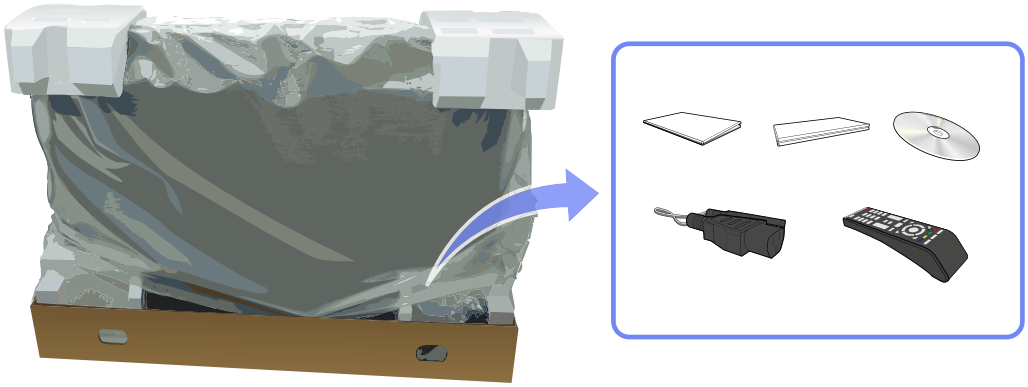


2 Using the grooves in the box, lift and remove the top of the box.



3 Check the components and remove the Styrofoam and plastic bag.

The appearance of actual components may differ from the image shown.



This image is for reference only.

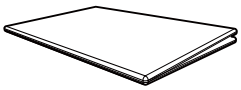
4 Store the box in a dry area so that it can be used when moving the product in the future.

1.1.2 Checking the Components

- Contact the vendor where you purchased the product if any components are missing.
- The appearance of the components and items sold separately may differ from the image shown.

Components

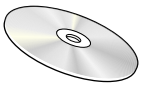
Components may differ in different locations.



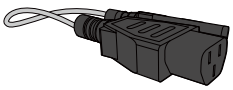
Quick setup guide

Warranty card

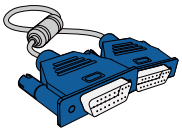
(Not available in all locations)



User manual



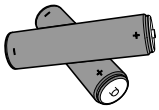
Power cord



D-SUB cable

Remote Control

(AA59-00552A)

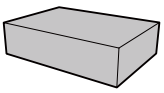


Batteries

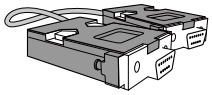
(Not available in all locations)

Items sold separately

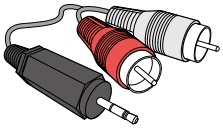
The following items can be purchased at your nearest retailer.



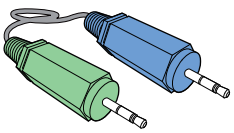
Wall-mount KIT



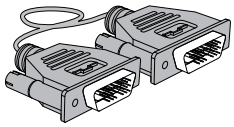
RS232C cable



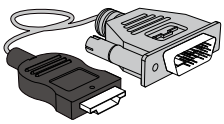
RCA stereo cable



Stereo cable



DVI cable

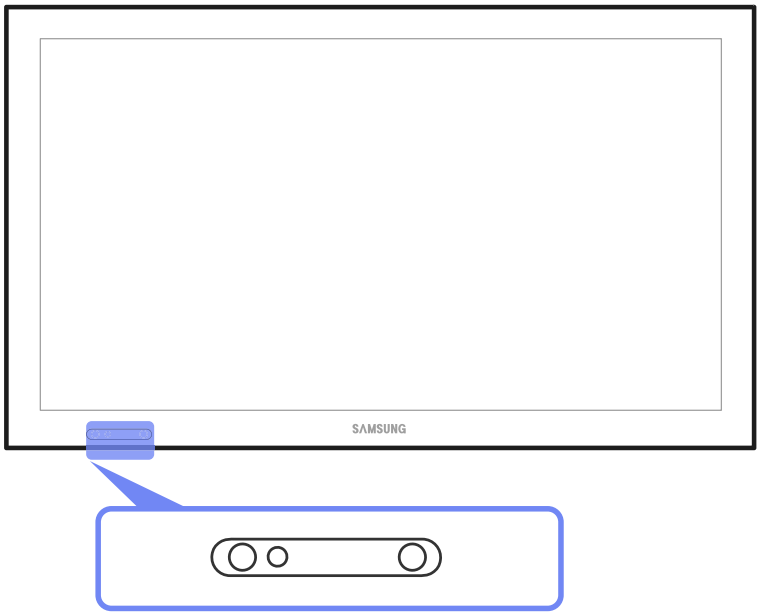


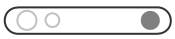
HDMI-DVI cable

1.2 Parts

1.2.1 Frontal Sensor

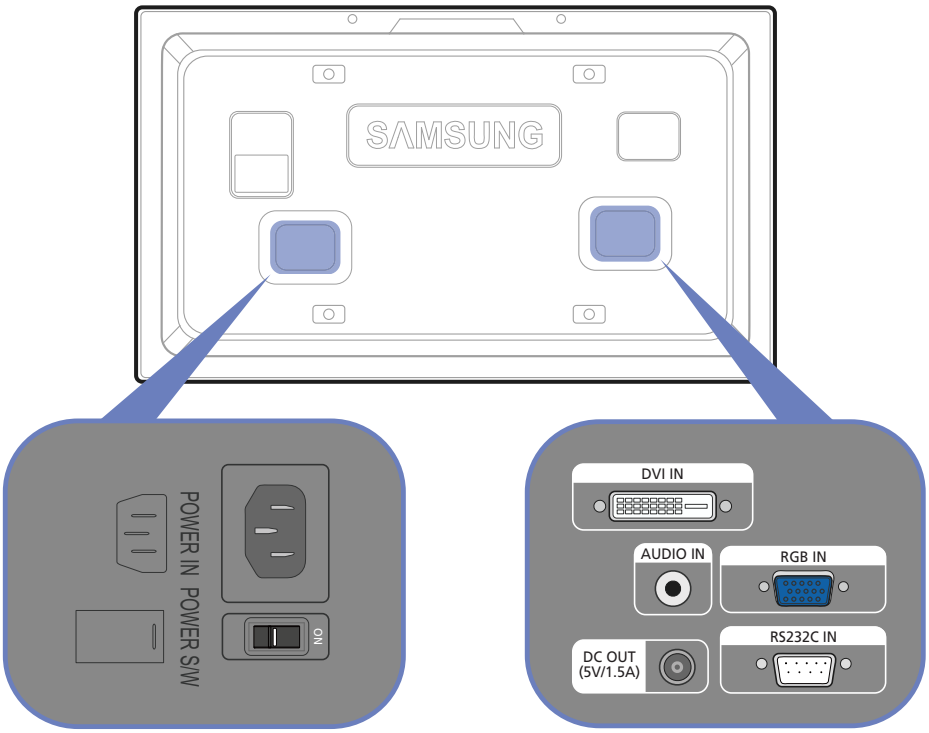
- The color and shape of parts may differ from what is shown. Specifications are subject to change without notice to improve quality.
- This product can only be controlled by using the remote control.



Sensor	Description
Power lamp	Normal: On / Energy saving: Blinks Refer to "8.2 PowerSaver" for details on Energy Saving mode.
Remote sensor 	Receives signals from the remote Keep the area between the remote sensor and remote control obstacle-free.

1.2.2 Reverse Side

The color and shape of parts may differ from what is shown. Specifications are subject to change without notice to improve quality.

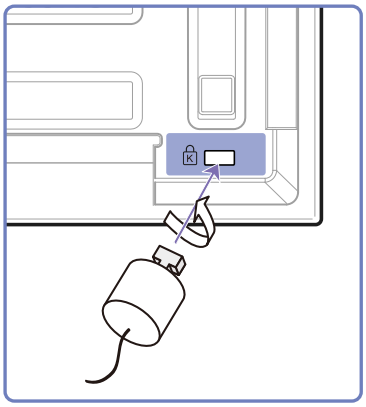


Port	Description
[POWER S/W] ON [I] / OFF	Power switch
[POWER IN]	Connects to the power cord
[DVI IN]	Connects to a source device using a DVI cable or HDMI-DVI cable
[AUDIO IN]	Connects to the audio of a source device
[RGB IN]	Connects to a source device using the D-SUB cable
[DC OUT (5V/1.5A)]	Be sure to connect the [DC OUT] port to a TV tuner box (US only) specified by Samsung. Otherwise, the product performance may be affected.
[RS232C IN]	Connects to an MDC using the RS232C cable

1.2.3 Anti-theft Lock

- An anti-theft lock allows you to use the product securely even in public places.
- The locking device shape and locking method depend on the manufacturer. Refer to the user guide provided with your anti-theft locking device for details.

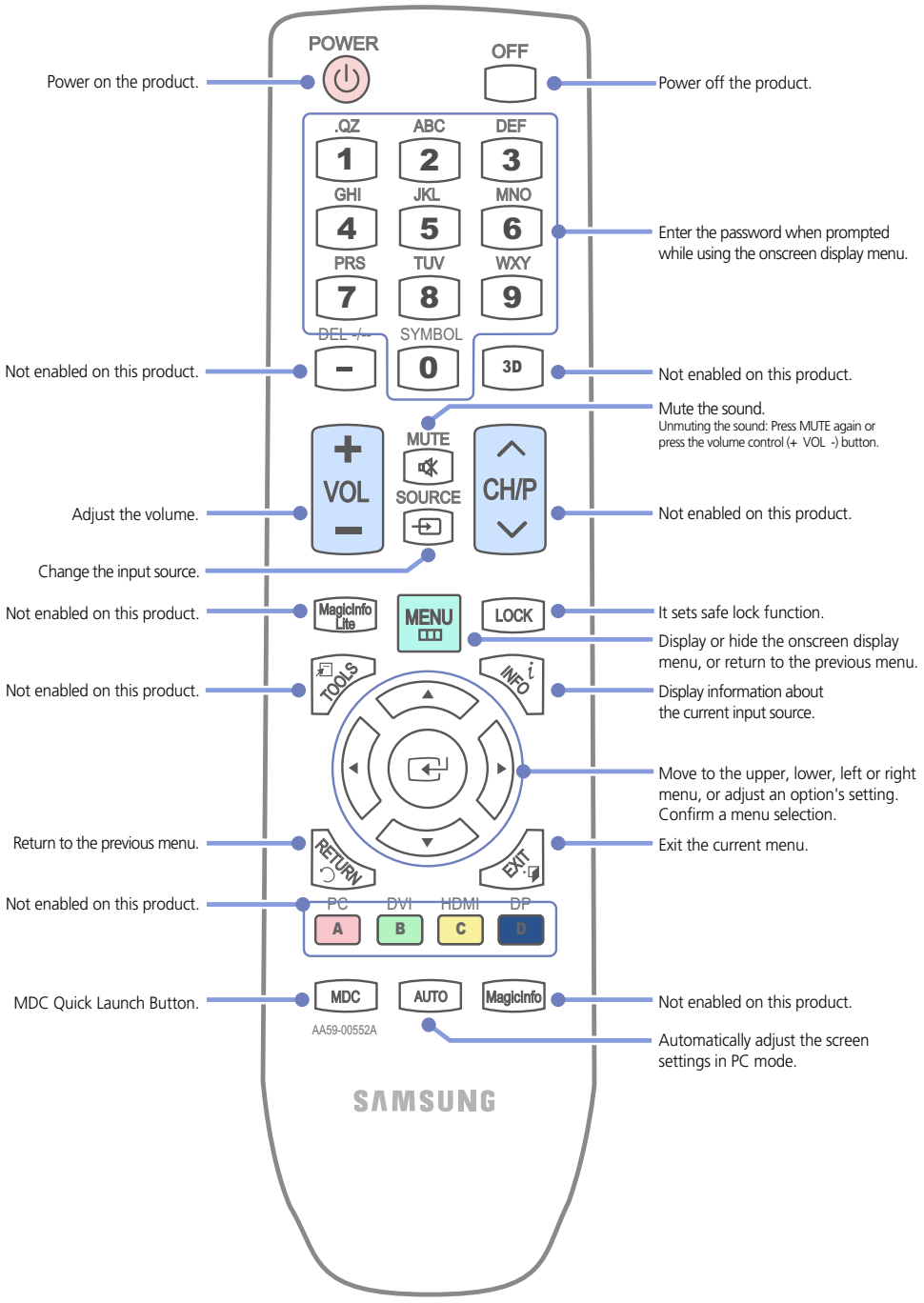
To lock an anti-theft locking device:



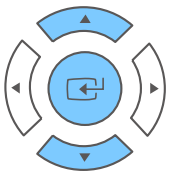
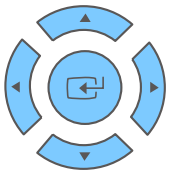
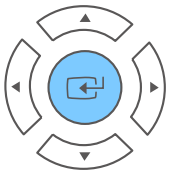
1. Fix the cable of your anti-theft locking device to a heavy object such as a desk.
2. Put one end of the cable through the loop on the other end.
3. Insert the locking device into the anti-theft lock slot at the back of the product.
4. Lock the locking device.
   - An anti-theft locking device can be purchased separately.
   - Refer to the user guide provided with your anti-theft locking device for details.
   - Anti-theft locking devices can be purchased at electronics retailers or online.

1.2.4 Remote Control

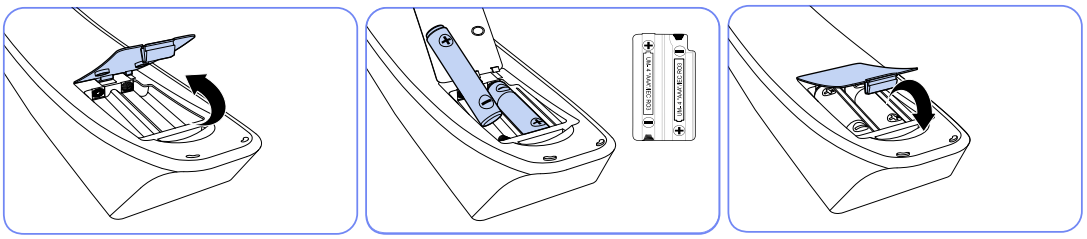
- Using other display devices in the same space as the remote control of this product can cause the other display devices to be inadvertently controlled.
- Remote control button functions may differ for different products.



Adjusting the OSD with the Remote Control

	1. Open the OSD menu.
	2. Select from **Input**, **Picture**, **Sound**, **Setup** or **Multi Control** in the displayed OSD menu screen.
	3. Change settings as desired.
	4. Finish setting.
	5. Close the onscreen display (OSD) menu.

To place batteries in the remote control:



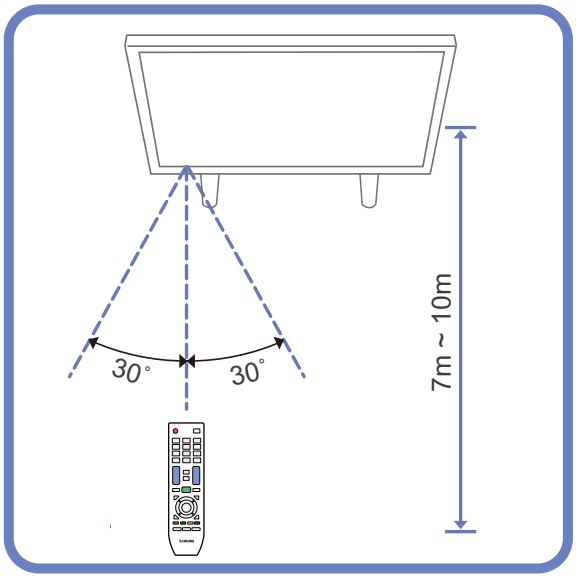
1 Open the back lid of the remote control.

2 Place two AAA batteries (1.5V) in the right direction.

3 Close the lid.

Batteries are sold separately.

Remote Control Reception Range



Use the remote control within 7m to 10m from the sensor on the product at an angle of 30° from the left and right.

- Store used batteries out of reach of children and recycle.
- Do not use a new and used battery together. Replace both batteries at the same time.
- Remove batteries when the remote control is not to be used for an extended period of time.

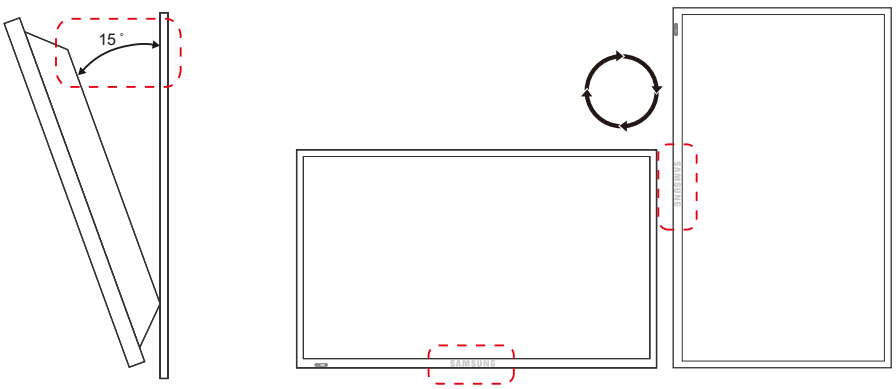
1.3 Before Installing the Product (Installation Guide)

To prevent injury, this apparatus must be securely attached to the floor/wall in accordance with the installation instructions.

- Ensure that an authorized installation company installs the wall mount.
- Otherwise, it may fall and cause personal injury.
- Make sure to install the specified wall mount.

1.3.1 Tilting Angle and Rotation

Contact Samsung Customer Service Center for further details.



A The product can be tilted at a maximum angle of 15˚ from a perpendicular wall surface.

B To use the product vertically (portrait), turn it clockwise so that the LED is pointing down.

1.3.2 Ventilation

1. Installation on a Perpendicular Wall

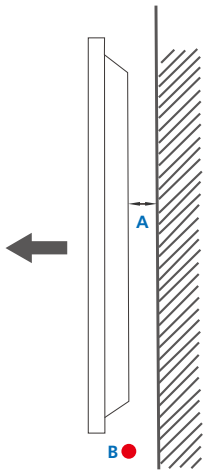


Figure 1.1 Side view

A Minimum 40 mm

B Ambient temperature: Under 35˚C

- When installing the product on a perpendicular wall, allow at least 40 mm of space between the product and wall surface for ventilation and ensure that the ambient temperature is kept below 35˚C.

2. Installation on an Indented Wall

Contact Samsung Customer Service Center for further details.

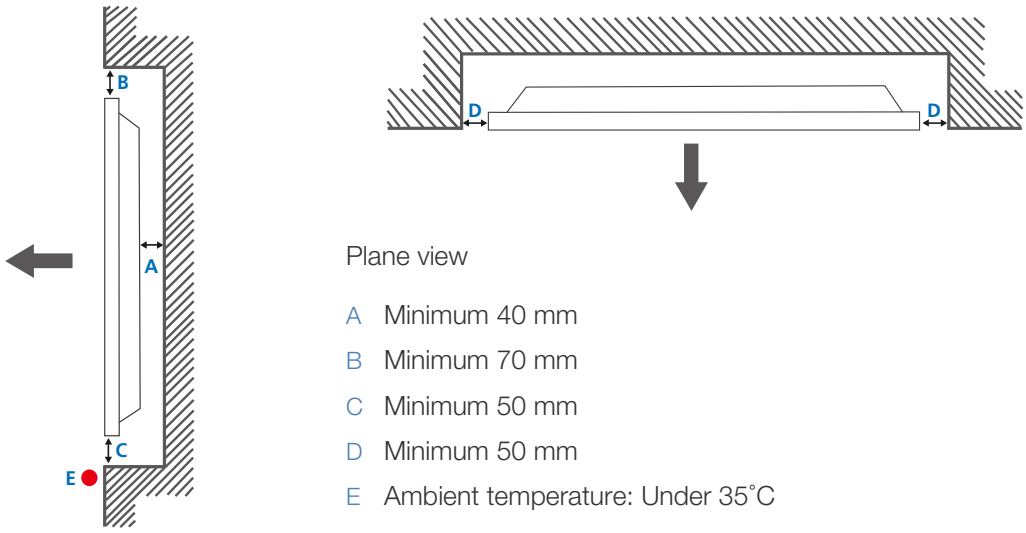


Figure 1.2 Side view

When installing the product on an indented wall, allow at least the space specified above between the product and wall for ventilation and ensure that the ambient temperature is kept below 35˚C.

3. Installation in an Indented Floor

Contact Samsung Customer Service Center for further details.

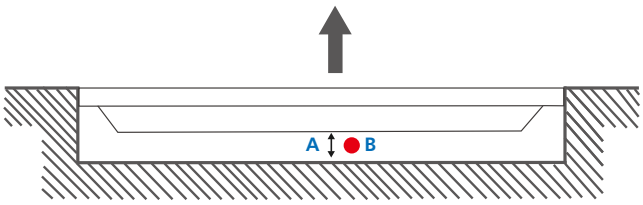
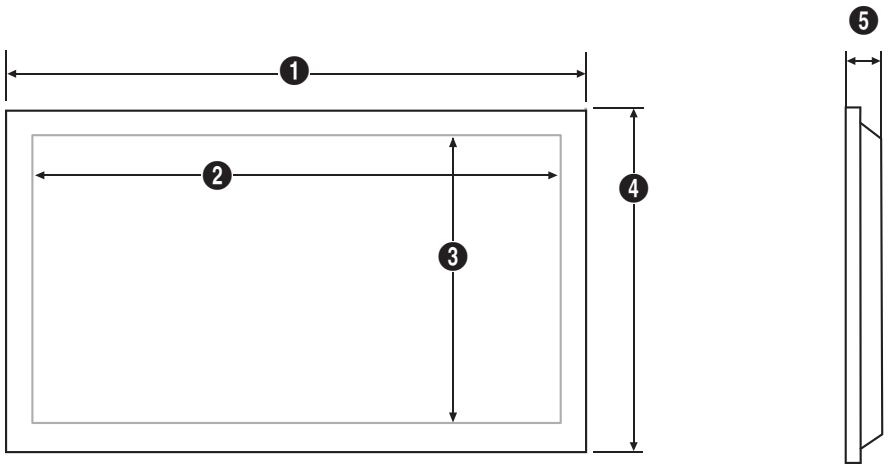


Figure 1.3 Side view

When installing the product in an indented floor, allow at least 50 mm of space between the product and floor surface for ventilation and ensure that the ambient temperature is kept below 20˚C.

1.3.3 Dimensions



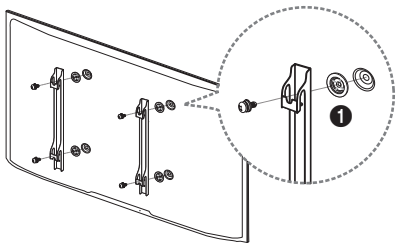
Model name	SET - Dimension (W x D x H) [mm]				
	Without STAND				
	❶	❷	❸	❹	❺
320BX	782.0	697.7	392.3	478.5	85.5
400BX	969.0	888.8	501.4	582.0	91.0
460BX	1102.0	1019.8	574.6	656.8	91.4

All drawings are not necessarily to scale. Some dimensions are subject to change without prior notice. Refer to the dimensions prior to performing installation of your product. Not responsible for typographical or printed errors.

1.4 Installing the Wall Mount

1.4.1 Preparing before installing Wall-Mount

To install a wall-mount from another manufacturer, use the Holder-Ring.

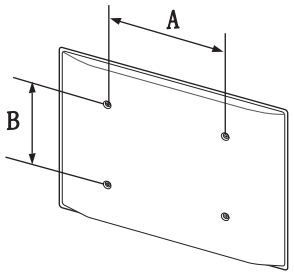


1.4.2 Installing the Wall Mount Kit

The wall mount kit (sold separately) allows you to mount the product on the wall.
For detailed information on installing the wall mount, see the instructions provided with the wall mount.
We recommend you contact a technician for assistance when installing the wall mount bracket.
Samsung Electronics is not responsible for any damage to the product or injury to yourself or others if you elect to install the wall mount on your own.

1.4.3 Wall Mount Kit Specifications (VESA)

Install your wall mount on a solid wall perpendicular to the floor. Before attaching the wall mount to surfaces other than plaster board, please contact your nearest dealer for additional information. If you install the product on a ceiling or slanted wall, it may fall and result in severe personal injury.



- Standard dimensions for wall mount kits are shown in the table below.
- Samsung wall mount kits contain a detailed installation manual and all parts necessary for assembly are provided.
- Do not use screws that do not comply with the VESA standard screw specifications.
- Do not use screws that are longer than the standard length or do not comply with the VESA standard screw specifications. Screws that are too long may cause damage to the inside of the product.
- For wall mounts that do not comply with the VESA standard screw specifications, the length of the screws may differ depending on the wall mount specifications.
- Do not fasten the screws too firmly. This may damage the product or cause the product to fall, leading to personal injury. Samsung is not liable for these kinds of accidents.
- Samsung is not liable for product damage or personal injury when a non-VESA or non-specified wall mount is used or the consumer fails to follow the product installation instructions.
- Do not mount the product at more than a 15 degree tilt.
- Always have two people mount the product on a wall.

Product size in inches	VESA screw hole specs (A * B) in millimeters	Standard Screw	Quantity
32~40	200 X 200	M8	4
46~55	400 X 400		

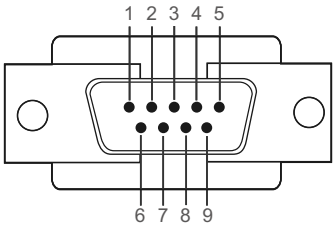
Do not install your Wall Mount Kit while your product is turned on. It may result in personal injury due to electric shock.

1.5 Remote Control

1.5.1 Cable Connection

Interface	RS232C (9 pins)
Pin	TxD (No. 2), RxD (No. 3), GND (No. 5)
Bit rate	9600 bps
Data bits	8 bit
Parity	None
Stop bit	1 bit
Flow control	None
Maximum length	15m (only shielded type)

- Pin assignment

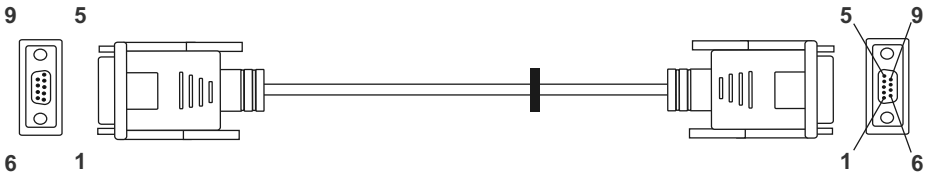


Pin	Signal
1	Detect data carrier
2	Received data
3	Transmitted data
4	Prepare data terminal
5	Signal ground
6	Prepare data set
7	Send request
8	Clear to send
9	Ring indicator

- RS232C cable

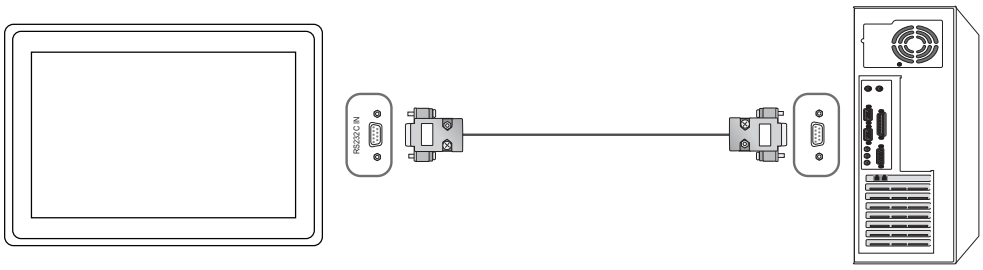
  Connector: 9-pin D-Sub

  Cable: Cross (reversed) cable



-P1-		-P1-		-P2-		-P2-
Female	Rx	2	-------->	3	Rx	Female
	Tx	3	<--------	2	Tx	
	Gnd	5	---------	5	Gnd	

- Connection



1.5.2 Control Codes

Viewing control state (Get control command)

Header	Command	ID	Data length	Checksum
0xAA	Command type		0	

Controlling (Set control command)

Header	Command	ID	Data length	Data	Checksum
0xAA	Command type		1	Value	

Command

No.	Command type	Command	Value range
1	Power control	0x11	0~1
2	Volume control	0x12	0~100
3	Input source control	0x14	-
4	Screen mode control	0x18	-
5	Screen size control	0x19	0~255
6	PIP on/off control	0x3C	0~1
7	Auto adjustment control	0x3D	0
8	Video wall mode control	0x5C	0~1
9	Safety Lock	0x5D	0~1

- Issued IDs can be displayed in hexadecimals. However, ID 0 must be displayed as 0xFF.
- All communications take place in hexadecimals. The checksum is calculated by adding up all values except the header. If a checksum adds up to be more than 2 digits as shown below (11+FF+01+01=112), the first digit is removed.

E.g. Power On & ID=0

Header	Command	ID	Data length	Data 1	Checksum
0xAA	0x11		1	"Power"	

Header	Command	ID	Data length	Data 1	12
0xAA	0x11		1	1	

- To control all devices connected by a serial cable simultaneously irrespective of IDs, set the ID as "0xFE" and transmit commands. Commands will be executed by each device but ACK will not respond.

Power control

- Function

  A TV/monitor can be powered on and off using a PC.

- Viewing power state (Get Power ON / OFF Status)

Header	Command	ID	Data length	Checksum
0xAA	0x11		0	

- Setting power ON/Off (Set Power ON / OFF)

Header	Command	ID	Data length	Data	Checksum
0xAA	0x11		1	"Power"	

"Power": Power code to be set on a TV/monitor

1 : Power ON

0 : Power OFF

- Ack

Header	Command	ID	Data length	Ack/Nak	r-CMD	Val1	Checksum
0xAA	0xFF		3	'A'	0x11	"Power"	

"Power": Power code to be set on a TV/monitor

- Nak

Header	Command	ID	Data length	Ack/Nak	r-CMD	Val1	Checksum
0xAA	0xFF		3	'N'	0x11	"ERR"	

"ERR" : A code showing what error has occurred

Volume control

- Function

  The volume of a TV/monitor can be adjusted using a PC.

- Viewing volume state (Get Volume Status)

Header	Command	ID	Data length	Checksum
0xAA	0x12		0	

- Setting the volume (Set Volume)

Header	Command	ID	Data length	Data	Checksum
0xAA	0x12		1	"Volume"	

"Volume": Volume value code to be set on a TV/monitor (0-100)

- Ack

Header	Command	ID	Data length	Ack/Nak	r-CMD	Val1	Checksum
0xAA	0xFF		3	'A'	0x12	"Volume"	

"Volume": Volume value code to be set on a TV/monitor (0-100)

- Nak

Header	Command	ID	Data length	Ack/Nak	r-CMD	Val1	Checksum
0xAA	0xFF		3	'N'	0x12	"ERR"	

"ERR" : A code showing what error has occurred

Input source control

- Function

  The input source of a TV/monitor can be changed using a PC.

- Viewing input source state (Get Input Source Status)

Header	Command	ID	Data length	Checksum
0xAA	0x14		0	

- Setting the input source (Set Input Source)

Header	Command	ID	Data length	Data	Checksum
0xAA	0x14		1	"Input Source"	

"Input Source": An input source code to be set on a TV/monitor

0x14	PC
0x1E	BNC
0x18	DVI
0x0C	Input source
0x04	S-video
0x08	Component
0x20	MagicInfo
0x1F	DVI_video
0x30	RF (TV)
0x40	DTV
0x21	HDMI1
0x22	HDMI1_PC
0x23	HDMI2
0x24	HDMI2_PC
0x25	DisplayPort

- DVI_video, HDMI1_PC and HDMI2_PC cannot be used with the Set command. They only respond to "Get" commands.
- This model does not support BNC, S-Video, HDMI1, HDMI1_PC, HDMI2, HDMI2_PC, and Display ports.
- **MagicInfo** is only available with models that contain the **MagicInfo** function.
- RF (TV) and DTV are only available with models that include a TV.

- Ack

Header	Command	ID	Data length	Ack/Nak	r-CMD	Val1	Checksum
0xAA	0xFF		3	'A'	0x14	"Input Source"	

"Input Source": An input source code to be set on a TV/monitor

- Nak

Header	Command	ID	Data length	Ack/Nak	r-CMD	Val1	Checksum
0xAA	0xFF		3	'N'	0x14	"ERR"	

"ERR" : A code showing what error has occurred

Screen

- Function

  The screen mode of a TV/monitor can be changed using a PC.

  Screen mode cannot be controlled when the **Video Wall** function is enabled.

  This control can only be used on models that include a TV.

- Viewing screen status (Get Screen Mode Status)

Header	Command	ID	Data length	Checksum
0xAA	0x18		0	

- Setting the picture size (Set Picture Size)

Header	Command	ID	Data length	Data	Checksum
0xAA	0x18		1	"Screen Mode"	

"Screen Mode": A code that sets the TV/monitor status

0x01	16 : 9
0x04	Zoom
0x31	Wide Zoom
0x0B	4 : 3

- Ack

Header	Command	ID	Data length	Ack/Nak	r-CMD	Val1	Checksum
0xAA	0xFF		3	'A'	0x18	"Screen Mode"	

"Screen Mode": A code that sets the TV/monitor status

- Nak

Header	Command	ID	Data length	Ack/Nak	r-CMD	Val1	Checksum
0xAA	0xFF		3	'N'	0x18	"ERR"	

"ERR" : A code showing what error has occurred

Screen size control

- Function

  The screen size of a TV/monitor can be changed using a PC.

- Viewing the screen size (Get Screen Size Status)

Header	Command	ID	Data length	Checksum
0xAA	0x19		0	

- Ack

Header	Command	ID	Data length	Ack/Nak	r-CMD	Val1	Checksum
0xAA	0xFF		3	‘A’	0x19	"Screen Size"	

"Screen Size": TV/monitor screen size (range: 0 – 255, unit: inch)

- Nak

Header	Command	ID	Data length	Ack/Nak	r-CMD	Val1	Checksum
0xAA	0xFF		3	‘N’	0x19	"ERR"	

"ERR" : A code showing what error has occurred

PIP On/Off control

- Function

  The PIP mode of a TV/monitor can be turned on or off using a PC.

  - Only available on models that have the PIP function.
  - The mode cannot be controlled if **Video Wall** is set to **On**.
  - This function is not available in MagicInfo.

- Viewing PIP on/off state (Get the PIP ON / OFF Status)

Header	Command	ID	Data length	Checksum
0xAA	0x3C		0	

- Setting PIP on/off (Set the PIP ON / OFF)

Header	Command	ID	Data length	Data	Checksum
0xAA	0x3C		1	"PIP"	

"PIP": A code used to turn the PIP mode of a TV/monitor on or off

1 : PIP ON

0 : PIP OFF

- Ack

Header	Command	ID	Data length	Ack/Nak	r-CMD	Val1	Checksum
0xAA	0xFF		3	'A'	0x3C	"PIP"	

"PIP": A code used to turn the PIP mode of a TV/monitor on or off

- Nak

Header	Command	ID	Data length	Ack/Nak	r-CMD	Val1	Checksum
0xAA	0xFF		3	'N'	0x3C	"ERR"	

"ERR" : A code showing what error has occurred

Auto adjustment control (PC and BNC only)

- Function

  Automatically adjust the PC system screen using a PC.

- Viewing auto adjustment state (Get Auto Adjustment Status)
- Setting auto adjustment (Set Auto Adjustment)

Header	Command	ID	Data length	Data	Checksum
0xAA	0x3D		1	"Auto Adjustment"	

"Auto Adjustment" : 0x00 (at all times)

- Ack

Header	Command	ID	Data length	Ack/Nak	r-CMD	Val1	Checksum
0xAA	0xFF		3	'A'	0x3D	"Auto Adjustment"	

- Nak

Header	Command	ID	Data length	Ack/Nak	r-CMD	Val1	Checksum
0xAA	0xFF		3	'N'	0x3D	"ERR"	

"ERR" : A code showing what error has occurred

Video Wall Mode Control

- Function

  Video Wall Mode can be activated on a TV/monitor using a PC.

  This control is only available on a TV/monitor whose **Video Wall** is enabled.

  This function is not available in MagicInfo.

- Viewing video wall mode (Get Video Wall Mode)

Header	Command	ID	Data length	Checksum
0xAA	0x5C		0	

- Setting the video wall (Set Video Wall Mode)

Header	Command	ID	Data length	Data	Checksum
0xAA	0x5C		1	"Video Wall Mode"	

"Video Wall Mode": A code used to activate Video Wall mode on a TV/monitor

1 : **Full**

0 : **Natural**

- Ack

Header	Command	ID	Data length	Ack/Nak	r-CMD	Val1	Checksum
0xAA	0xFF		3	'A'	0x5C	"Video Wall Mode"	

"Video Wall Mode": A code used to activate Video Wall mode on a TV/monitor

- Nak

Header	Command	ID	Data length	Ack/Nak	r-CMD	Val1	Checksum
0xAA	0xFF		3	'N'	0x5C	"ERR"	

"ERR" : A code showing what error has occurred

Safety Lock

- Function

  PC can be used to turn the Safety Lock function on or off on a TV/monitor.

  This control is available regardless of whether or not the power is turned on.

- Viewing the safety lock state (Get Safety Lock Status)

Header	Command	ID	Data length	Checksum
0xAA	0x5D		0	

- Enabling or disabling safety lock (Set Safety Lock Enable / Disable)

Header	Command	ID	Data length	Data	Checksum
0xAA	0x5D		1	"Safety Lock"	

"Safety Lock": Safety lock code to be set on a TV/monitor

1 : ON

0 : OFF

- Ack

Header	Command	ID	Data length	Ack/Nak	r-CMD	Val1	Checksum
0xAA	0xFF		3	'A'	0x5D	"Safety Lock"	

"Safety Lock": Safety lock code to be set on a TV/monitor

- Nak

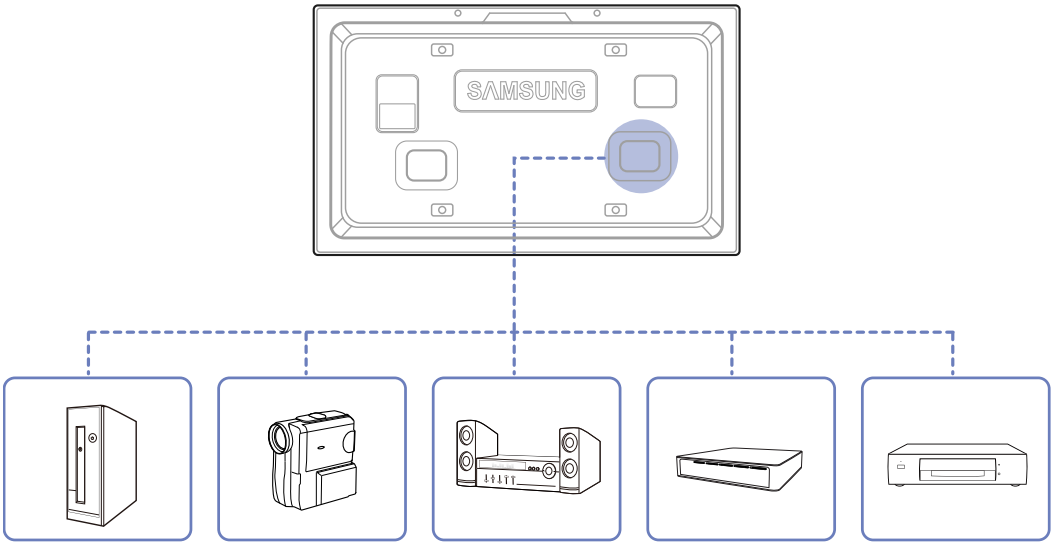
Header	Command	ID	Data length	Ack/Nak	r-CMD	Val1	Checksum
0xAA	0xFF		3	'N'	0x5D	"ERR"	

"ERR" : A code showing what error has occurred

2.1 Before Connecting

Check the following before you connect this product with other devices.

Devices that can be connected to this product include PCs, camcorders, speakers, set top boxes and DVD/Blu-ray Disc players.



2.1.1 Pre-connection Checkpoints

- Before connecting a source device, read the user manual provided with it. The number and locations of ports on source devices may differ from device to device.
- Do not connect the power cable until all connections are completed. Connecting the power cable during connection may damage the product.
- Connect the sound ports correctly: left = white and right = red.

  Audio input received via an audio-in port will be outputted via the **PC** or **DVI** port.
- Check the types of ports at the back of the product you want to connect.

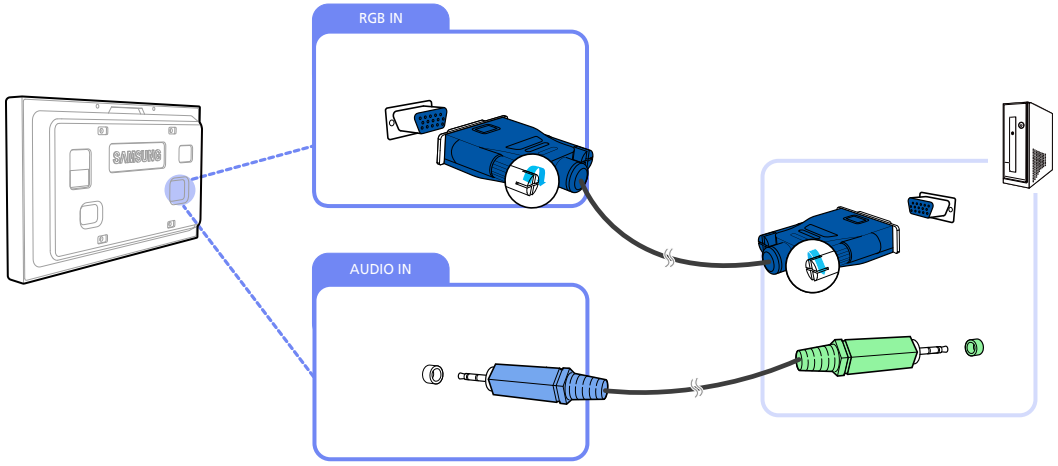
2.2 Connecting and Using a PC

2.2.1 Connecting to a PC

- A PC can be connected to the product in a variety of ways.
  Select a connection method suitable for your PC.

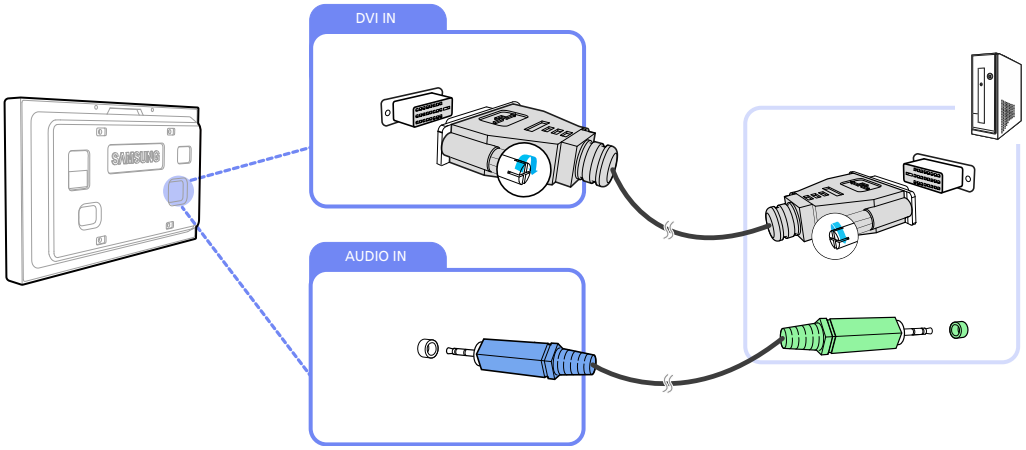
  Connecting parts may differ in different products.

Connection using the D-SUB cable (analogue type)



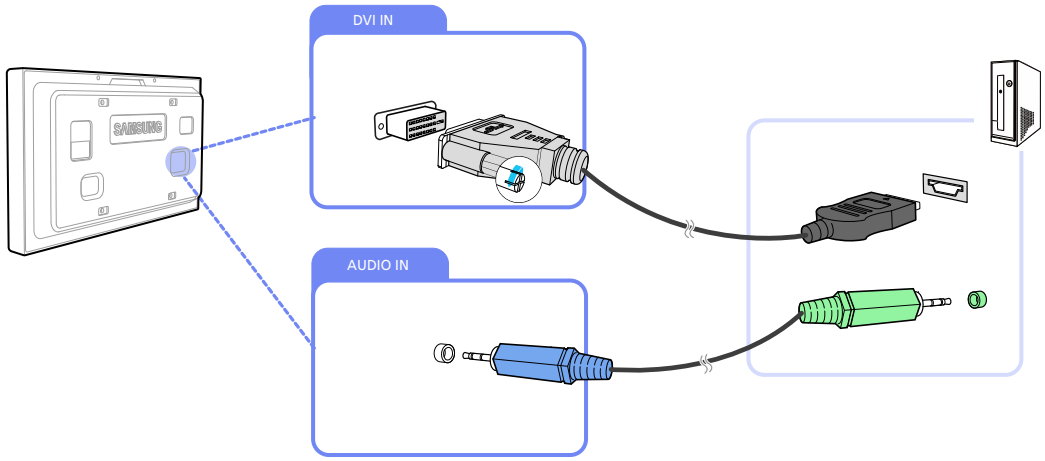
1. Connect the D-SUB cable to the [RGB IN] port on the product and the D-SUB port on the PC.
2. Connect a sound output cable to the [AUDIO IN] port on the product and the sound output port on the PC.
3. Connect the power cord to the product and power socket, and power on the PC.

Connection using a DVI cable (digital type)



1. Connect a DVI cable to the [DVI IN] port on the monitor and the DVI port on the PC.
2. Connect a sound output cable to the [AUDIO IN] port on the product and the sound output port on the PC.
3. Connect the power cord to the product and power socket, and power on the PC.

Connection Using an HDMI-DVI Cable



1. Connect an HDMI-DVI cable to the [DVI IN] port on the monitor and the HDMI port on the PC.
2. Connect a sound output cable to the [AUDIO IN] port on the product and the sound output port on the PC.
3. Connect the power cord to the product and power socket, and power on the PC.

When you connect a PC to the product using an HDMI-DVI cable, set **Edit Name** to **DVI PC** to access video and audio content stored on the PC.

2.2.2 Driver Installation

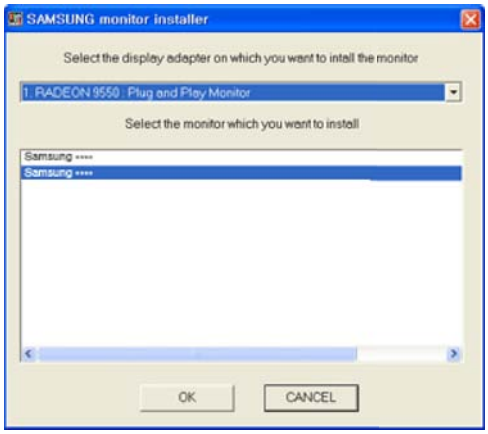
- You can set the optimum resolution and frequency for this product by installing the corresponding drivers for this product.
- An installation driver is contained on the CD supplied with the product.
  If the provided files are faulty, go to the Samsung homepage (http://www.samsung.com) and download the files.

1 Insert the user manual CD provided with the product into the CD-ROM drive.

2 Click "Windows Driver."

3 Follow the instructions given on the screen to proceed with installation.

4 Select your product model from the list of models.


SAMSUNG monitor installer
Select the display adapter on which you want to intall the monitor
1. RADEON 9550 : Plug and Play Monitor
Select the monitor which you want to install
Samsung ****
Samsung ****
OK
CANCEL

5 Go to Display Properties and check that the resolution and refresh rate are appropriate.
Refer to your Windows OS manual for further details.

2.2.3 Changing the Resolution

Adjust the resolution and refresh rate in Control Panel on your PC to obtain optimum picture quality.

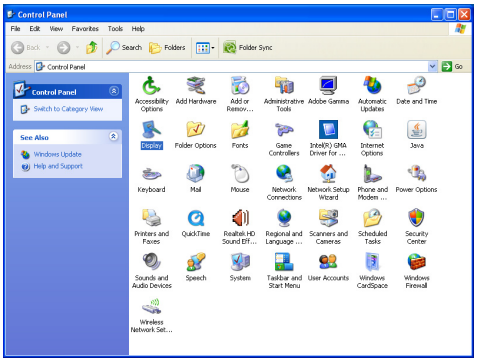
The picture quality of TFT-LCDs may degrade if the optimum resolution is not selected.

Changing the Resolution on Windows XP

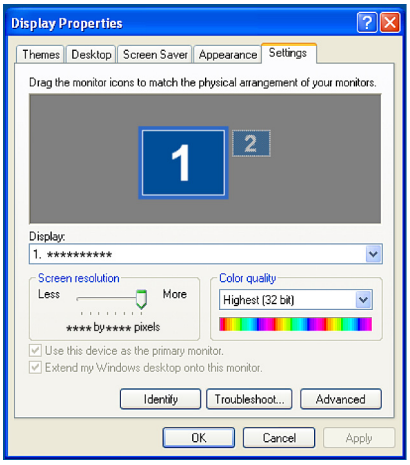
Go to **Control Panel** → **Display** → **Settings**, and change the resolution.

1

2



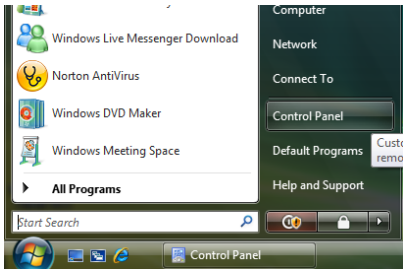
3



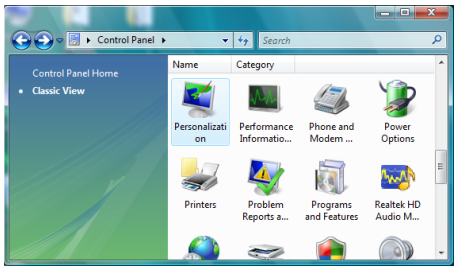
Changing the Resolution on Windows Vista

Go to **Control Panel** → **Personal Settings** → **Display Settings**, and change the resolution.

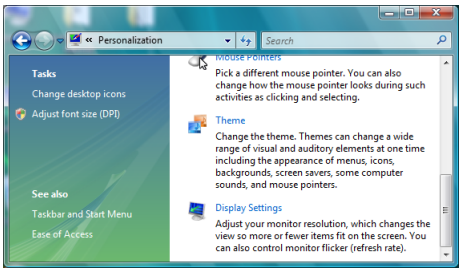
1



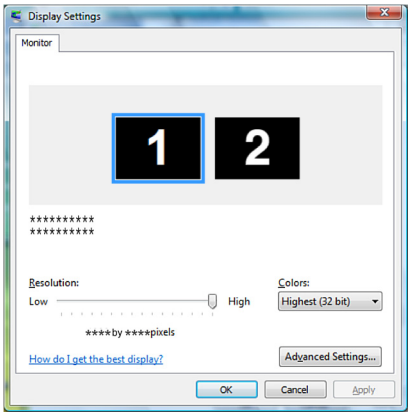
2



3


Personalization
Search
Tasks
Change desktop icons
Adjust font size (DPI)
See also
Taskbar and Start Menu
Ease of Access
Mouse Pointers
Pick a different mouse pointer. You can also change how the mouse pointer looks during such activities as clicking and selecting.
Theme
Change the theme. Themes can change a wide range of visual and auditory elements at one time including the appearance of menus, icons, backgrounds, screen savers, some computer sounds, and mouse pointers.
Display Settings
Adjust your monitor resolution, which changes the view so more or fewer items fit on the screen. You can also control monitor flicker (refresh rate).

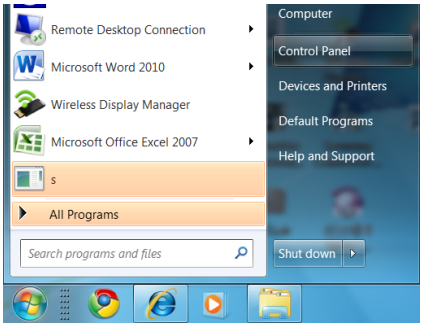
4



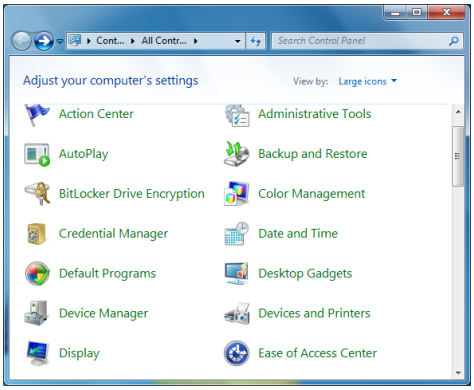
Changing the Resolution on Windows 7

Go to **Control Panel** → **Display** → **Screen Resolution**, and change the resolution.

1



2



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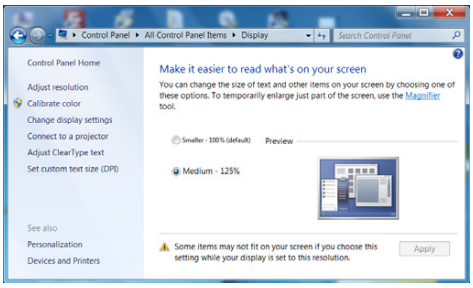

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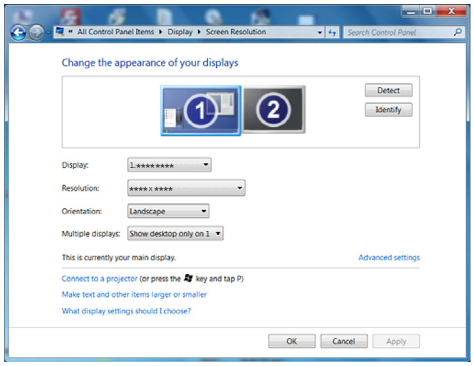
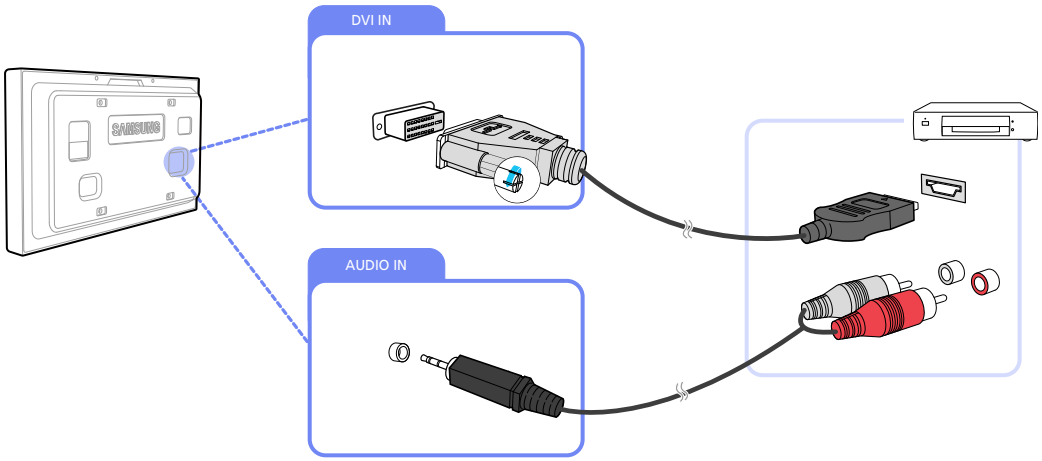


2.3 Connecting to a Video Device

- You can connect a video device to the product using a cable.

  Connecting parts may differ in different products.

2.3.1 Connection Using an HDMI-DVI Cable



1. Connect an HDMI-DVI cable to the [DVI IN] port on the product and the HDMI port on the video device.
2. Connect the RCA stereo cable to the [AUDIO IN] port on the product and the matching-colored AUDIO OUT ports on the video device.
3. Press the **SOURCE** button on the remote control to change the source to **DVI**.

- Audio will not be enabled if the product is connected to a video device using an HDMI-DVI cable. To resolve this, additionally connect an audio cable to the audio ports on the product and video device. When you connect a video device to the product using an HDMI-DVI cable, set **Edit Name** to **DVI Devices** to access video and audio content stored on the video device.
- Supported resolutions include 1080p (50/60Hz), 720p (50/60Hz), 480p, and 576p.

2.4 Connecting and Using a Source Device

2.4.1 Source List/Edit Name

Source List allows you to select a variety of sources and change source device names.

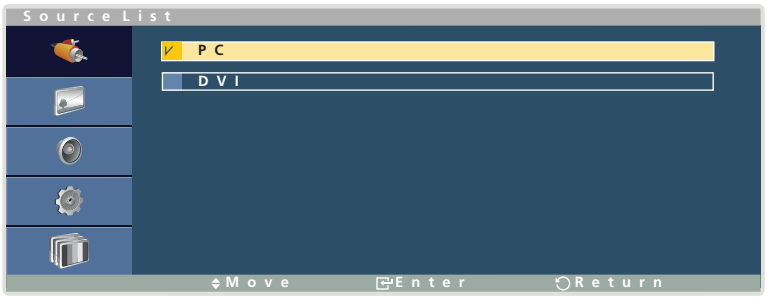
Source List

You can display the screen of a source device connected to the product. Select a source from Source List to display the screen of the selected source.

To change the setting in Source List:

This product can only be controlled by using the remote control.

1. Press **MENU** on the remote control.
2. Press ▲/▼ to move to **Input** and press [↵].
3. Press ▲/▼ to move to **Source List** and press [↵]. The following screen will appear.



4. Press ▲/▼ to move to the source you want and press [↵]. The screen of the selected source will be displayed.

The screen may not display correctly if an incorrect source is selected for the source device you want to convert to.

Edit Name

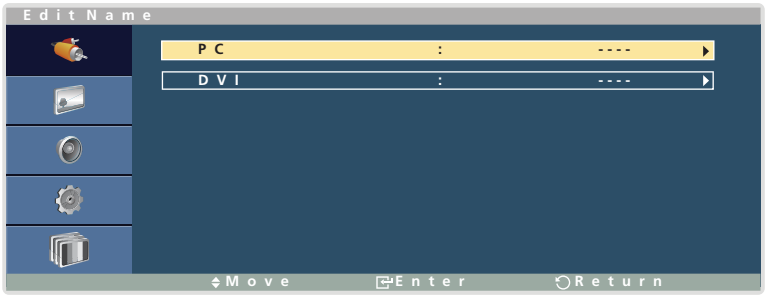
- You can rename a connected source device.

Sometimes the screen will not display properly unless the name of a source device is specified in **Edit Name**. In addition, it is best to rename the source device in **Edit Name** to obtain optimal picture quality.

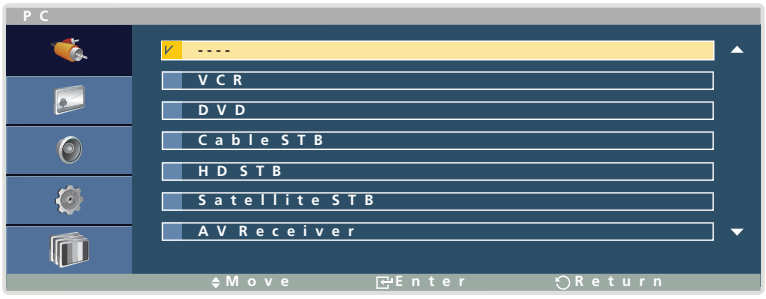
To rename a source device in Edit Name:

This product can only be controlled by using the remote control.

1. Press **MENU** on the remote control.
2. Press ▲/▼ to move to **Input** and press [↵].
3. Press ▲/▼ to move to **Edit Name** and press [↵]. A list of sources (PC, DVI , etc.) will appear.



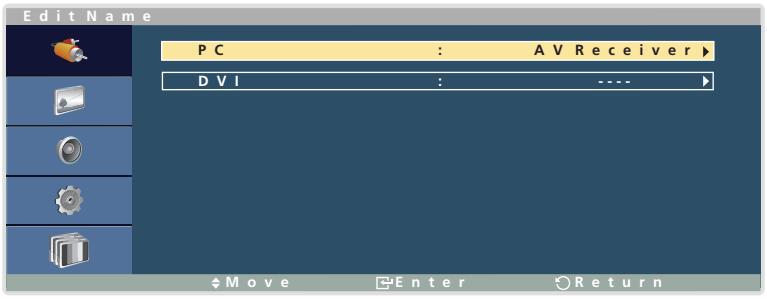
4. Press ▲/▼ to move to the source you want and press [↵]. A list of source devices will appear as shown below.



The list can include the following source devices. Source devices on the list differ depending on the selected source.

VCR / DVD / Cable STB / HD STB / Satellite STB / AV Receiver / DVD Receiver / Game / Camcorder / DVD Combo / DHR / PC / DVI PC / DVI Devices

5 Press ▲/▼ to move to the source device you want and press [↵]. The name of the selected source device will be displayed as shown below.



Available settings in the **Picture** menu depend on the current source and settings made in **Edit Name**. (Refer to page 91 for details about the **Picture** menu.)

Source AutoSwitch Settings

- Turning on the display with **Source AutoSwitch On**, and the previous video source selection is not active, the display will automatically search the different video input sources for active video.

Configuring Source AutoSwitch Settings

This product can only be controlled by using the remote control.

1. Press **MENU** on the remote control.
2. Press ▲/▼ to move to **Input** and press [↵].
3. Press ▲/▼ to move to **Source AutoSwitch Settings** and press [↵].
4. Press ▲/▼ to move to **Source AutoSwitch** and press [↵].

- **Source AutoSwitch**

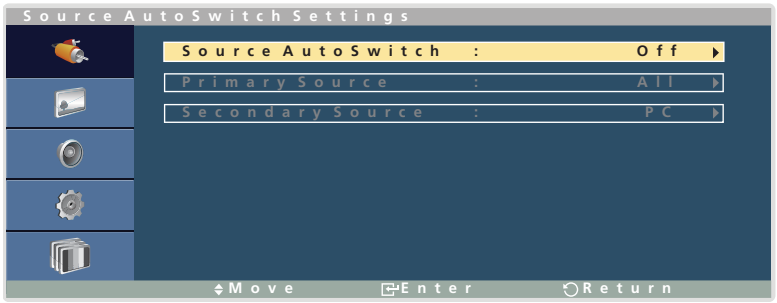
  When the **Source AutoSwitch** is **On**, the display video source will automatically be searched for active video.

  The **Primary Source** selection will be activated, if the current video source is not recognized.

  Secondary Source selection will become active, if no primary video source is available.

  If both the primary and secondary input sources are not recognized, the display will perform two searches for an active source, each search checking the primary and then secondary source. If both searches fail, the display will return to the first video source and display a message indicating that there is no signal.

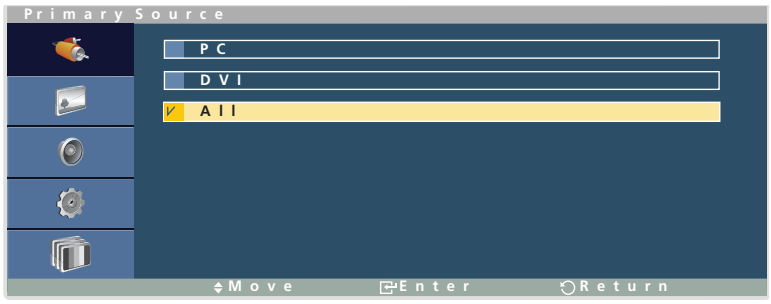
  When the **Primary Source** selection is set to **All**, the display will search all the video source inputs twice in sequence looking for an active video source, returning back to the first video source in the sequence if no video is found.



Press ▲/▼ to select the option you want and press [↵].

- **Primary Source**

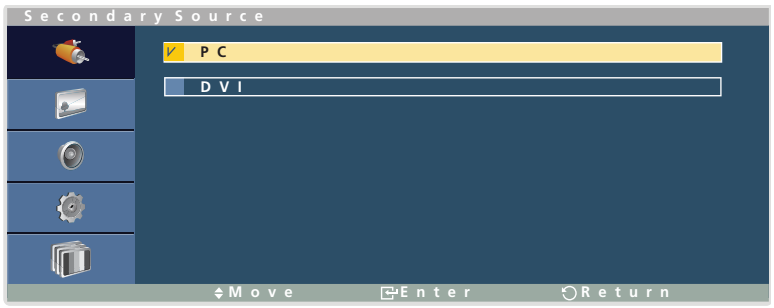
  Specify **Primary Source** for the automatic input source.



  Press ▲/▼ to select the option you want and press [↵].

- **Secondary Source**

  Specify **Secondary Source** for the automatic input source.



  Press ▲/▼ to select the option you want and press [↵].

3 Using MDC

MDC (Multiple Display Control) is an application that allows you to easily control multiple display devices simultaneously using a PC.

3.1 Configuring Settings for Multi Control

Assign an individual ID to your product.

3.1.1 Configuring settings for Multi Control

This product can only be controlled by using the remote control.

1 Press **MENU** on the remote control.

2 Press ▲/▼ to move to **Multi Control** and press [↵].

- **ID Setup**

  Assign an ID to a set. (Range: 00~99)

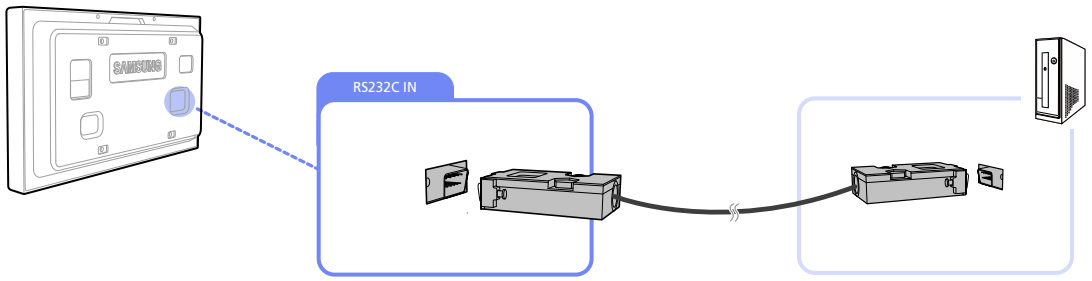
  Press ▲ or ▼ to select a number, and press [↵].

- **ID Input**

  Enter the ID number of the product connected to the input cable for input signal reception.

  Enter the number you want using the number buttons on the remote control.

3.2 Connection Using the RS232C Cable



1 Connect the RS232C cable to [RS232C IN] on the product and RS232C OUT on the PC.

3.3 MDC Program Installation/Uninstallation

3.3.1 Installation

1 Insert the installation CD into the CD-ROM drive.

2 Click the **MDC Unified** installation program.

If a software installation window is not displayed on the main screen, install with the "MDC Unified" execution file in the MDC folder on the CD.

3 Click "Next" in the displayed Installation Wizard screen.

4 In the "License Agreement" window displayed, select "I accept the terms in the license agreement" and click "Next".

5 In the displayed "Customer Information" window, fill out all the information fields and click "Next".

6 In the displayed "Destination Folder" window, select the directory path you want to install the program in and click "Next".

If the directory path is not specified, the program will be installed in the default directory path.

7 In the displayed "Ready to Install the Program" window, check the directory path to install the program in and click "Install".

8 Installation progress will be displayed.

9 Click "Finish" in the displayed "InstallShield Wizard Complete" window.

Select "Launch MDC Unified" and click "Finish" to run the MDC program immediately.

10 The MDC Unified shortcut icon will be created on the desktop after installation.

- The MDC execution icon may not be displayed depending on the PC system or product specifications.
- Press F5 if the execution icon is not displayed.

3.3.2 Uninstallation

1 Select **Settings** > **Control Panel** on the **Start** menu and double-click **Add/Delete Program**.

2 Select **MDC Unified** from the list and click **Change/Remove**.

MDC installation can be affected by the graphics card, mother board and network conditions.

3.4 Using the MDC Program

3.4.1 Connecting to MDC

Using MDC via RS-232C (serial data communications standards)

An RS-232C serial cable must be connected to the serial ports on the PC and monitor.

Using MDC via Ethernet

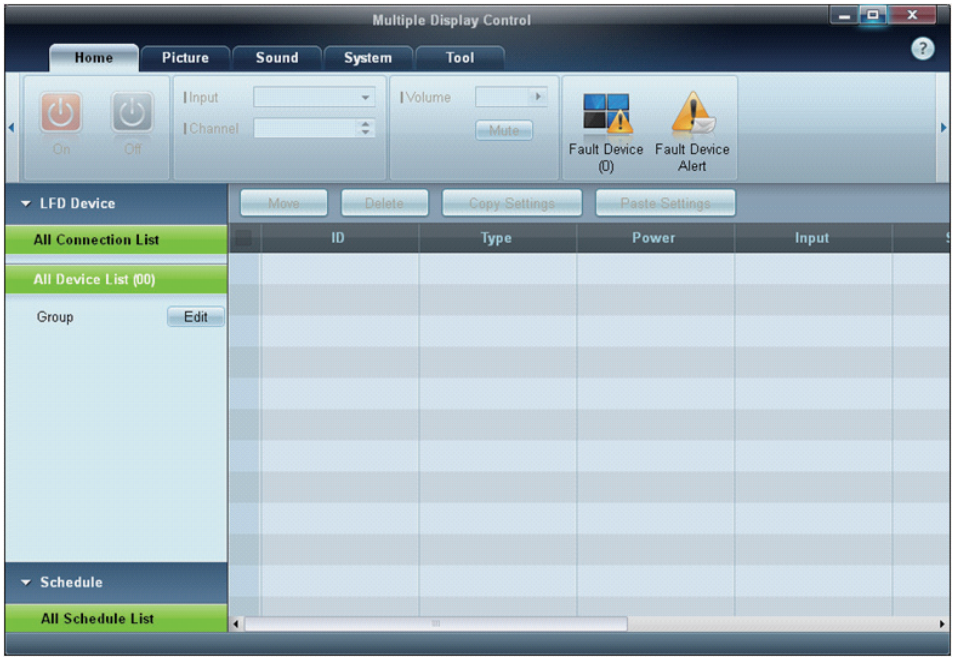
Enter the IP for the primary display device and connect the device to the PC. One display device can connect to another using an RS-232C serial cable.

3.4.2 Connection Management

Connection management includes the **Connection list** and **Connection list modification options**.

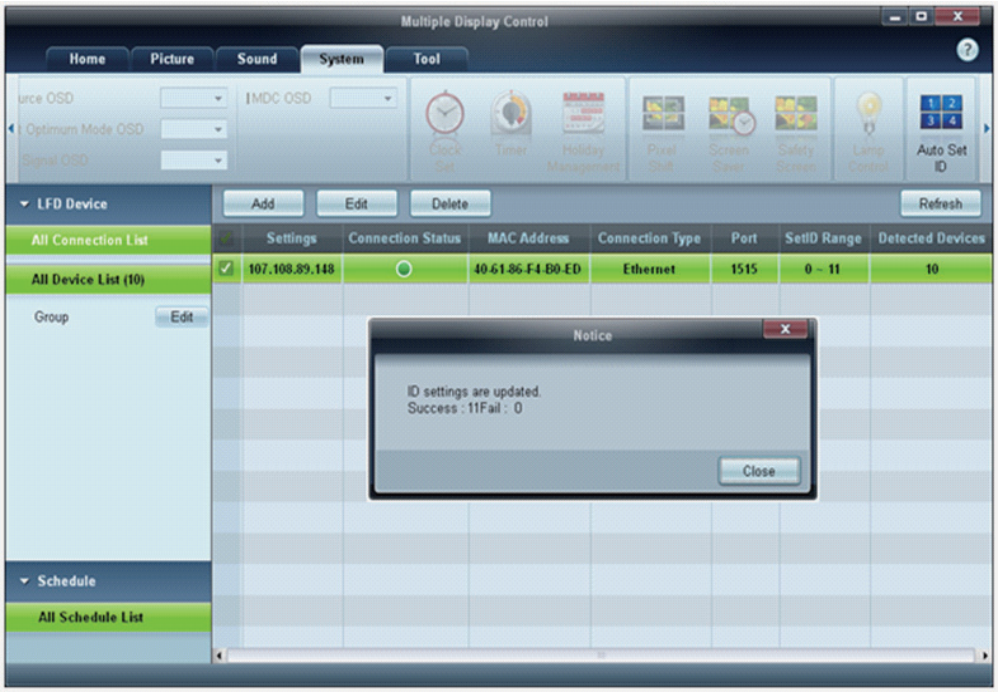
Connection list - Connection list shows the details of the connections such as connection setting (IP/COM, Port No, MAC, and **Connection Type**), connection status, **Set ID Range**, and detected devices. Each connection can contain a maximum of 100 devices connected in serial daisy-chain fashion. All the LFDs detected in a connection are displayed in the Device list, where the user can make groups and send commands to detected devices.

Connection list modification options - Connection modification options includes **Add**, **Edit**, **Delete**, and **Refresh**.



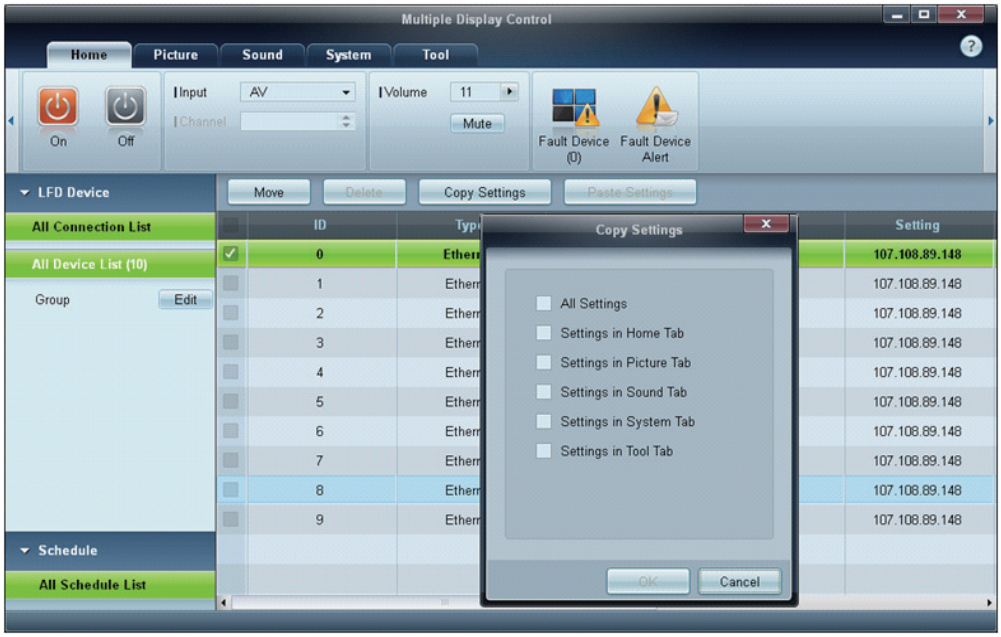
3.4.3 Auto Set ID

Auto Set ID feature assigns a Set ID for all the LFDs connected in daisy-chain of a selected connection. There can be a maximum of 100 LFDs in a connection. The Set ID is assigned sequentially in the daisy-chain running from 1 to 99, and then finally to Set ID 0.



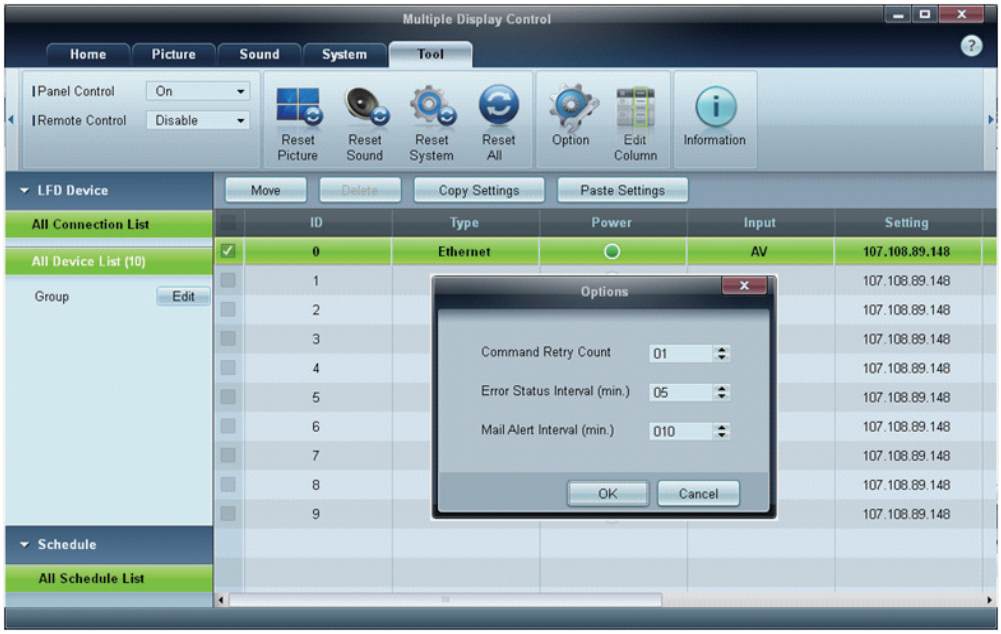
3.4.4 Cloning

Using the Cloning feature, you can copy the setting of one LFD and apply it to multiple selected LFDs. You can select specific tab categories or all tab categories for cloning, using the copy setting option window.



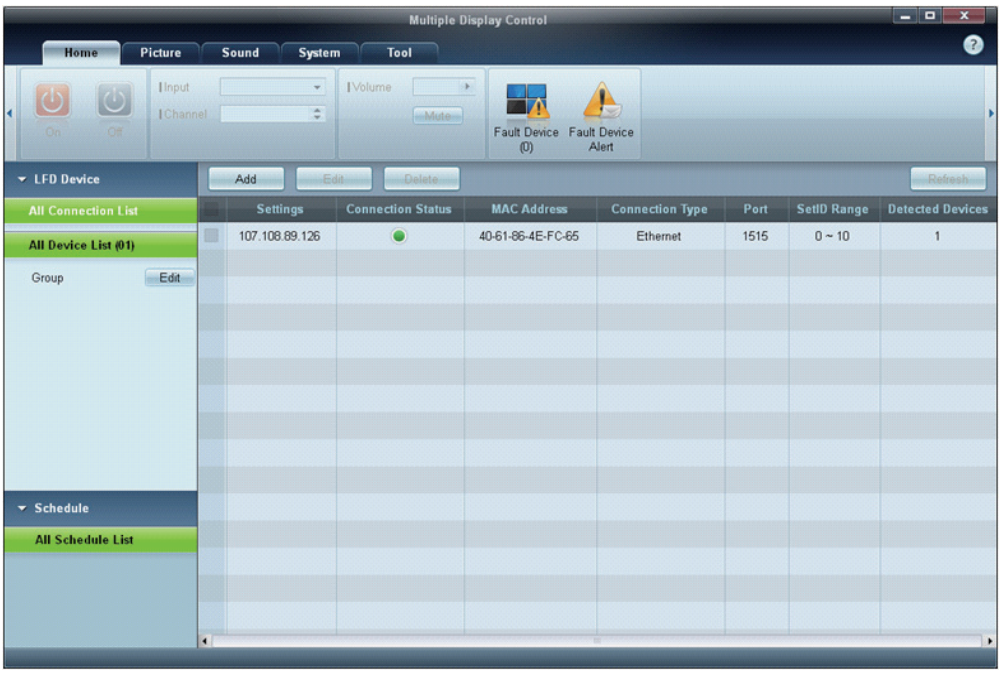
3.4.5 Command Retry

This feature is used to specify the maximum number of times the MDC command will be retried in case of there being no reply or a corrupted reply from an LFD. The retry count value can be set using the MDC options window. The retry count value must be between 1-10. The default value is 1.



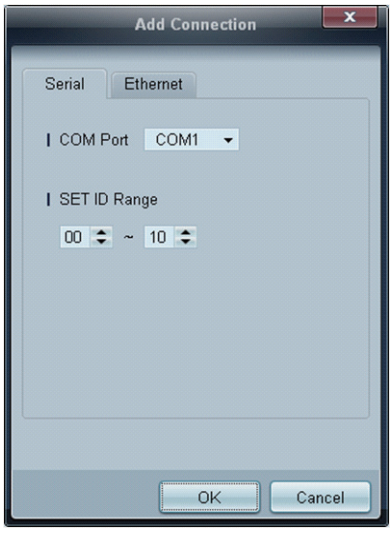
3.4.6 Getting Started with MDC

1 To start the program, click **Start** → **Programs** → **Samsung** → **MDC Unified**.

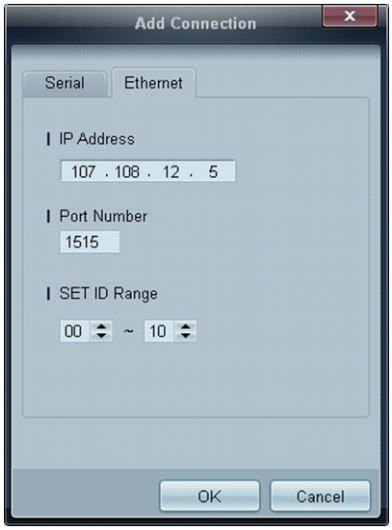


2 Click **Add** to add a display device.

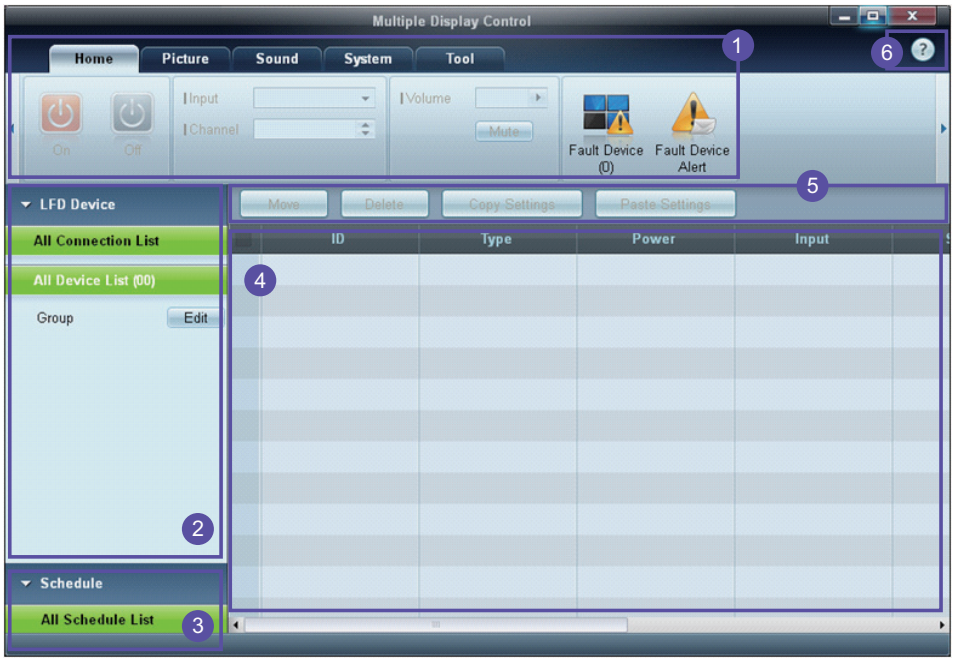
- If the connection is established via RS232C, go to **Serial** and specify the **COM Port**.



- If the connection is established via **Ethernet**, enter the IP that was entered for the display device.



3.4.7 Main Screen Layout



1 Menu Bar	Change the status of a display device or the properties of the program.
2 Device Category	View a list of connected display devices or device groups.
3 Schedule Category	View a list of schedules for display devices.
4 Set List	Select the display device you want to adjust.
5 Modify the Set List	Add, edit, regroup or delete sets.
6 Help Topics	Display help topics for the program.

3.4.8 Menus

You can power on or off a selected device or change the input source or volume of the device.

Choose display devices from the list of sets, and select the **Home** tab.

1 Home

Select an item and change the corresponding setting.

Power

- **On**: Power on a selected display.
- **Off**: Power off a selected display.

Input

- Input Source : Change the input source.

  - Input sources available can vary depending on the Display Device Models.
  - The input source can be changed only for displays that are turned on.

- **Channel** : Change the channel.

  - The TV channel can be changed by using the up/down arrow keys.
  - The channel can be changed only when the input source is **TV**.
  - Only registered channels can be selected.

2 Volume

The volume can be changed or the sound can be muted only for displays that are turned on.

Volume

- The volume can be adjusted using the slider bar in the range of 0 to 100.

  Adjust the volume of a selected display.

Input

- Enable or disable **Mute** for a selected display.

  Mute will automatically be disabled if **Volume** is adjusted when **Mute** is on.

3 Alert

- **Fault Device**
  - This menu shows a list of display devices which have following errors - fan error, temperature error, brightness sensor error, or lamp error.

    Select a display device from the list. The **Repair** button will be enabled. Click the refresh button to refresh the error status of the display device. The recovered display device will disappear from the **Fault Device List**.
- **Fault Device Alert**
  - Display device in which error is detected will be reported by email.

    Fill in all required fields. The **Test** and **OK** buttons will be enabled. Ensure the **Sender** information and at least one **Recipient** are entered.

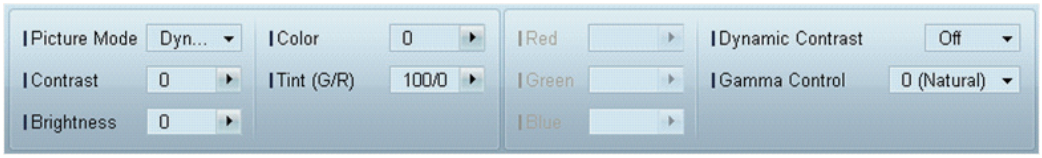
3.4.9 Screen Adjustment

The screen settings (contrast, brightness, etc.) can be adjusted.

Choose display devices from the list of sets, and select the **Picture** tab.

Custom

Select an item and change the corresponding screen setting.



- **Color** and **Tint** are not available if the input source is **PC**.
- **Red**, **Green**, **Blue** and **PC Screen Adjustment** are not available if the input source is **Video**.
- **Color**, **Tint**, **Color Tone**, **Color Temp**, **Red**, **Green**, **Blue** and **PC Screen Adjustment** are not available if both **PC Source** and **Video Source** are selected.

Contrast

- Adjust the contrast for the selected display device.

Brightness

- Adjust the brightness for the selected display device.

Color

- Adjust the colors for the selected display device.

Tint (G/R)

- Adjust the tint for the selected display device.

Color Tone

- Adjust the background color tone for the selected display device.

Color Temp

- Adjust the color temperature for the selected display device.

  This option is enabled if **Color Tone** is set to **Off**.

Red

- Customize the intensity of red color for the selected display device.

Green

- Customize the intensity of green color for the selected display device.

Blue

- Customize the intensity of blue color for the selected display device.

Options

Dynamic Contrast

Adjust the **Dynamic Contrast** for the selected display device.

Gamma Control

Change the gamma value for the selected display.

Auto Motion Plus

This option is used to view dynamic images.

- **Off**: Disable the **Auto Motion Plus** function.
- **Clear**: Set the level of **Auto Motion Plus** to clear. This mode is suitable to display vivid images.
- **Standard**: Set the level of **Auto Motion Plus** to standard.
- **Smooth**: Set the level of **Auto Motion Plus** to smooth. This mode is suitable to display smooth images.
- **Custom**: Customize the level of screen burn-in or flickering.
- **Demo**: This function demonstrates the technology of **Auto Motion Plus**. The result when the mode is changed can be previewed on the left side of the window.

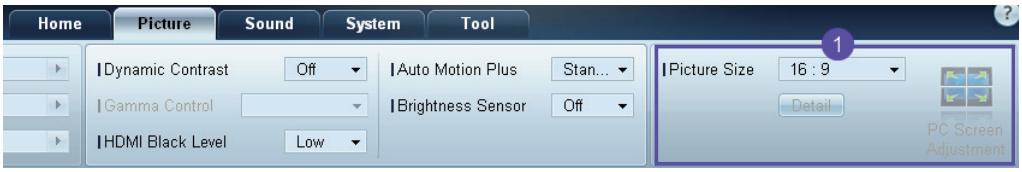
Brightness Sensor

Enable or disable the **Brightness Sensor** for the selected display device.

The **Brightness Sensor** detects the ambient light intensity and automatically adjusts the screen brightness.

Brightness Sensor may not be available depending on the product.

Size



Picture Size

Adjust the screen size for the selected display device.

The **Detail** item will be disabled if **Picture Size** is set to a mode that does not support detailed configuration.

The -/+ buttons can be used to adjust **Zoom**.

The screen can be relocated using the up/down/left/right buttons.

Detail

You can view details of the selected screen size.

PC Screen Adjustment

Frequency adjustment or fine-tuning is available by using the -/+ buttons in **Coarse** or **Fine**.

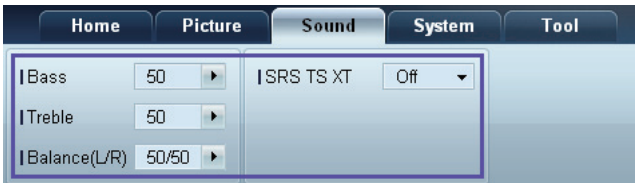
To relocate the screen, click one of the four images below **Position**.

To automatically adjust the frequency, fine-tune or relocate the screen, click **Auto Adjustment**.

3.4.10 Sound Adjustment

You can change the sound settings.

Choose display devices from the list of sets, and select the **Sound** tab.



The **Bass** or **Treble** item will be disabled if the item is not supported by the selected set.

Bass

Adjust the bass for the selected display.

Treble

Adjust the treble for the selected display.

Balance (L/R)

Adjust the volume of the left and right speakers of the selected display device.

SRS TS XT

Enable or disable the **SRS TS XT** effect for the selected display device.

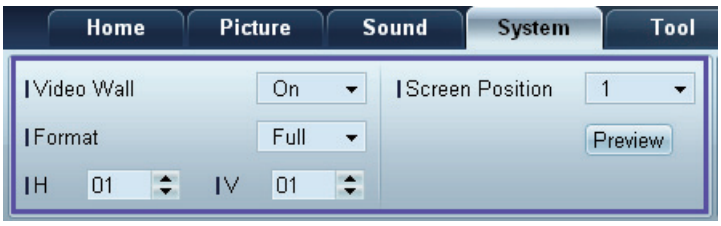
3.4.11 System Setup

Choose display devices from the list of sets, and select the **System** tab.

Video Wall

The **Video Wall** function can be used to display part of a whole picture or repeat the same picture on each of connected multiple display devices.

Video Wall is enabled only when devices are in the group.



Video Wall

Enable or disable **Video Wall**.

Format

Select the format to display the split screen.

Full

Natural

H

Select the number of horizontal display devices.

A maximum of 15 displays can be arranged in a row.

A maximum of 6 can be assigned to V if 15 is assigned to H.

V

Select the number of vertical display devices.

A maximum of 15 displays can be arranged in a row.

A maximum of 6 can be assigned to V if 15 is assigned to H.

Screen Position

View the layout of displays (configured by the screen divider) or change the layout as required.

Screen Position and **Preview** are enabled when **Video Wall** is set to on.

Note that if multiple sets are selected, **Preview** is enabled only if the settings for H and V match the layout of the selected sets.

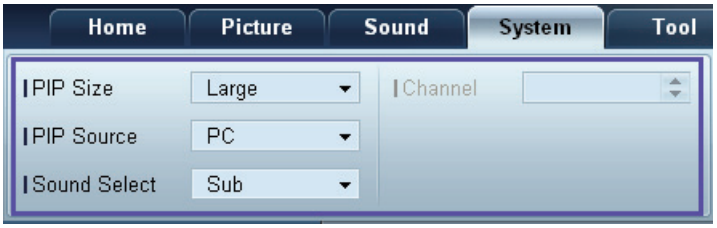
To change the **Position**, select a set and drag it to a new position.

The range of screen divider settings may differ depending on the model.

PIP

Basic information required to adjust **PIP** will appear in the menu screen.

- **PIP** will be disabled when **Video Wall** is **ON**.
- Note that **Picture Size** is disabled when **PIP** is **ON**.



PIP Size

View the **PIP Size** of the current display.

PIP Source

Select a PIP input source.

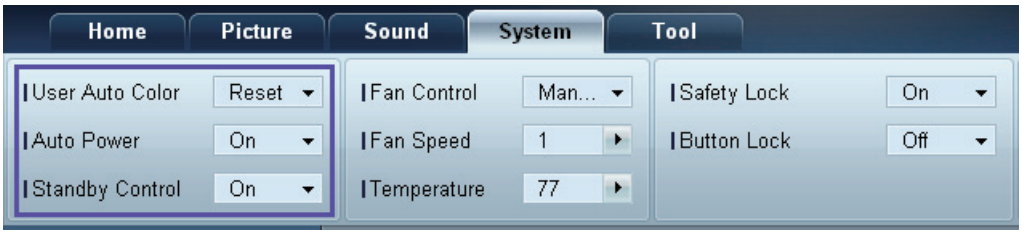
Sound Select

Select and enable the sound from either the primary screen or secondary screen.

Channel

The channel can be changed if **PIP Source** is **TV**.

General



User Auto Color

Automatically adjust the screen colors.

Available only in **PC** mode.

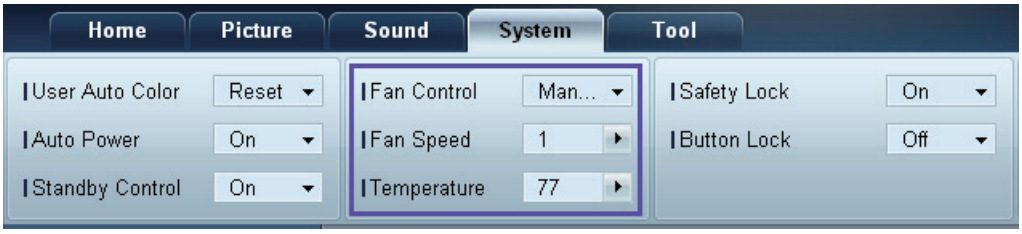
Auto Power

Set the product to automatically power on.

Standby Control

Set the standby mode to activate if an input source is not detected.

Fan & Temperature



Configure the settings required to detect the fan speed and internal temperature for the product's protection.

Fan Control

Select a method to configure the fan speed.

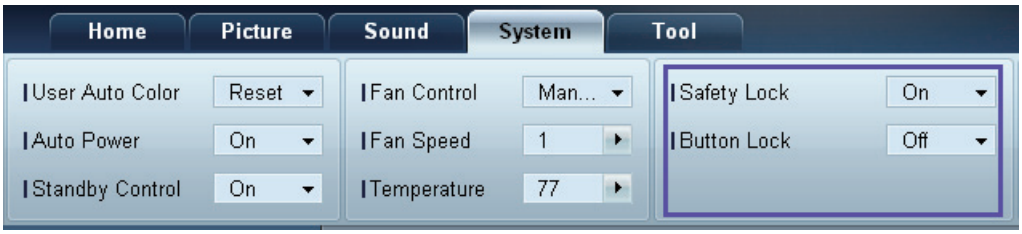
Fan Speed

Configure the fan speed.

Temperature

Detect the internal temperature by specifying the range of temperature.

Security



Safety Lock

Lock the on-screen menus.

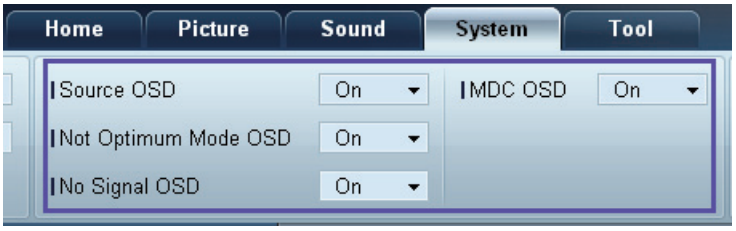
To unlock the menus, set **Safety Lock** to **Off**.

Button Lock

Lock the buttons on the display device.

To unlock the buttons, set **Button Lock** to **Off**.

OSD Display



Source OSD

Select whether to display a message when the **Source** is changed.

Not Optimum Mode OSD

Select whether to display a message when a non-compatible mode is selected.

No Signal OSD

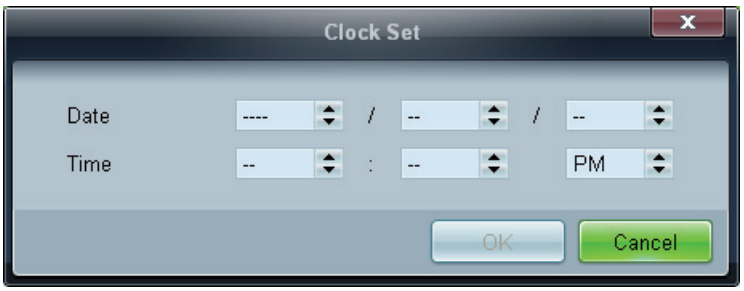
Select whether to display a message when there is no input signal.

MDC OSD

Select whether to display a message when settings are changed by the MDC.

Time

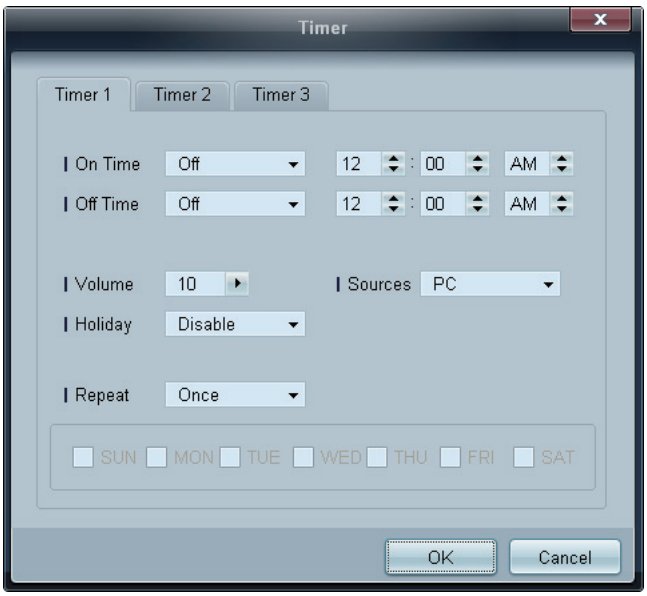
Clock Set



Change the current time on the selected display device according to the time set on a PC.

If the time is not set on the display device, null values will be displayed.

Timer



- **On Time**: Set the time to power on the selected display device.
- **Off Time**: Set the time to power off the selected display device.
- **Volume**: Specify the volume of the display device when it is powered on by **On Time**.
- **Source**: Specify the input source of the display device when it is powered on by **On Time**.
- **Holiday**: The **Holiday Management** settings can be applied to the **Timer**.
- **Repeat** : Specify the period for which you want to repeat the selected **Timer**.

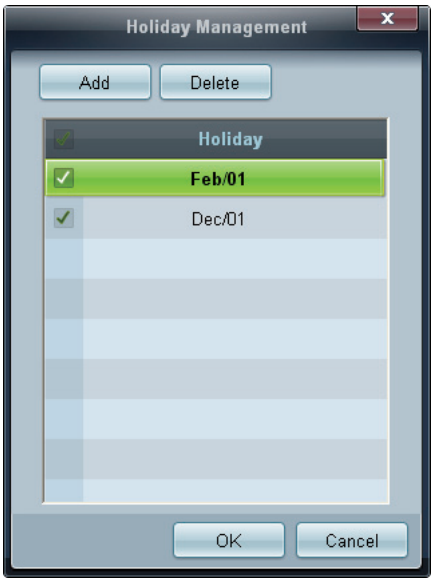
- **Once**: Activate the timer only one time.
- **EveryDay**: Activate the timer every day.
- **Mon~Fri**: Activate the timer from Monday through Friday.
- **Mon~Sat**: Activate the timer on Saturdays and Sundays.
- **Manual**: Customize days of the week.

The checkboxes to select days of the week below **Repeat** are enabled only if **Manual** is selected.

Holiday Management

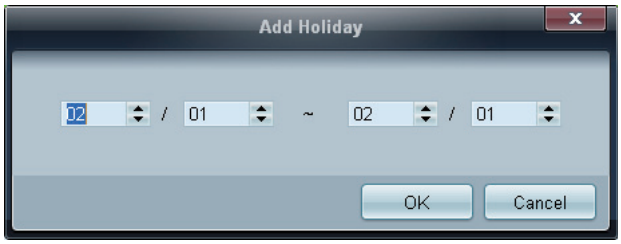
Holiday Management allows you to prevent devices that are set to be powered on by the **Timer** from turning on at a specified date.

The **Holiday Management** function can be enabled or disabled in the **Timer** settings menu.



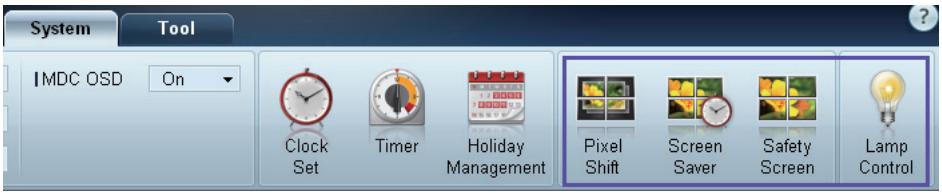
- **Add**: You can specify holidays.

  Click the **Add** button in the **Holiday Management** window.

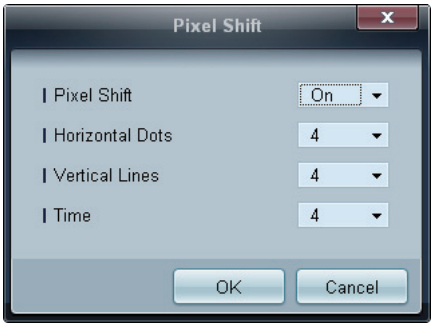


- **Delete**: Delete holidays. check the corresponding checkboxes and click this button.
- List of holidays: View a list of holidays you have added.

Screen Burn Protection

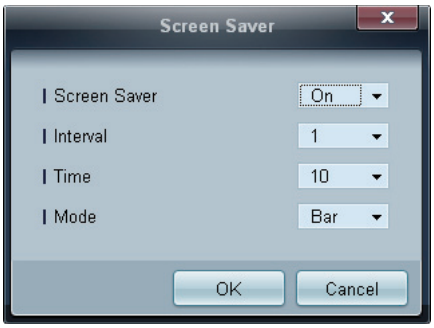


Pixel Shift



Move the screen slightly at specified time intervals to prevent screen burn-in.

Screen Saver



This function prevents screen burn-in when the screen of the selected display device is left idle for an extended period of time.

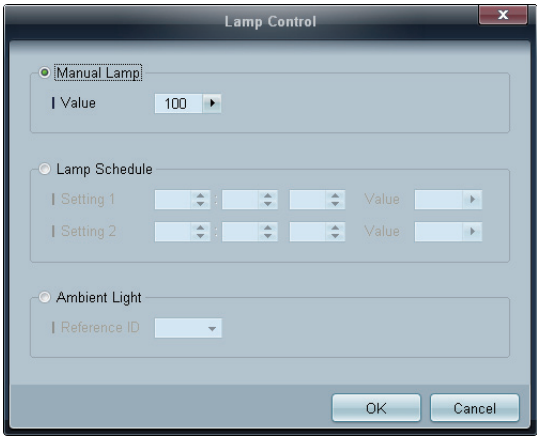
- **Interval**: Set the interval to activate the **Screen Saver**.
- **Mode**: The **Time** setting can vary for each **Mode**.

Safety Screen

The **Safety Screen** function can be used to prevent screen burn-in when a stationary image displays on the screen of a display device for an extended period of time.

Lamp Control

Lamp Control is used to adjust the backlight to reduce power consumption.



Automatically adjust the backlight of the selected display device at a specified time.

If **Manual Lamp Control** is adjusted, **Auto Lamp Control** will automatically switch to **Off**.

Manually adjust the backlight for the selected display.

If **Auto Lamp Control** is adjusted, **Manual Lamp Control** will automatically switch to **Off**.

- **Ambient Light**: **Ambient Light** detects ambient light intensity and automatically adjusts the screen brightness of all the LFDs in the same serial chain.

3.4.12 Tool Settings

1 Security

Panel Control

Turn on or off the screen of a display device.

Remote Control

Enable or disable the remote control.

2 Reset

Reset Picture

Reset the screen settings.

Reset Sound

Reset the sound settings.

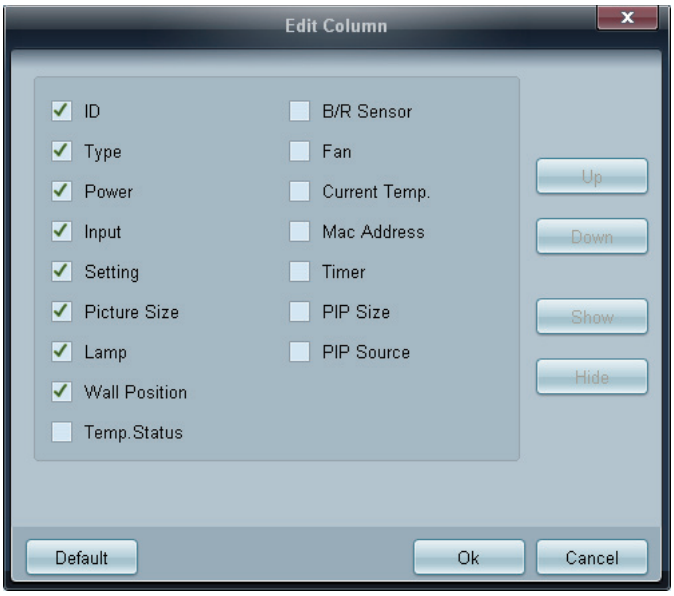
Reset System

Reset the system settings.

Reset All

Reset the screen, sound and system settings at the same time.

3 Edit Column



Select the items you want to display in the list of sets.

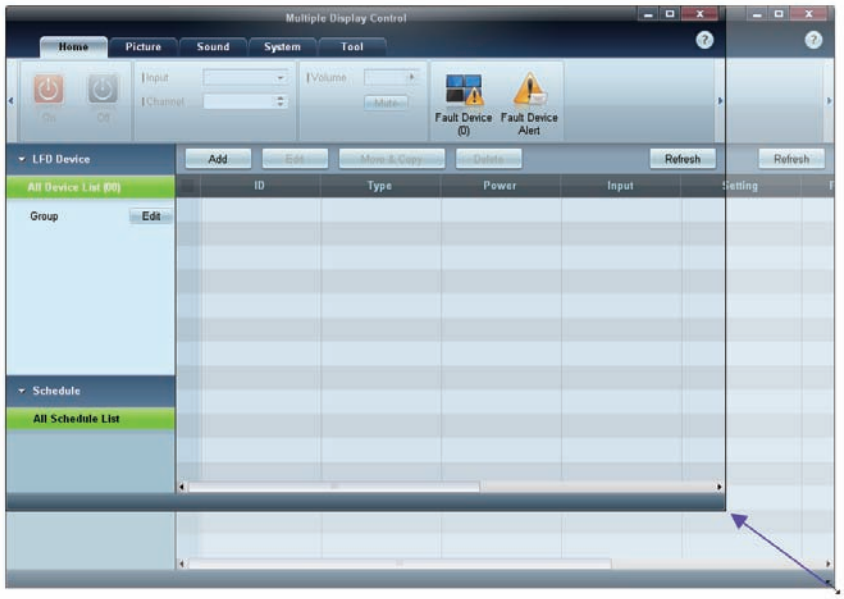
4 Information

View the program information.

3.4.13 Other Functions

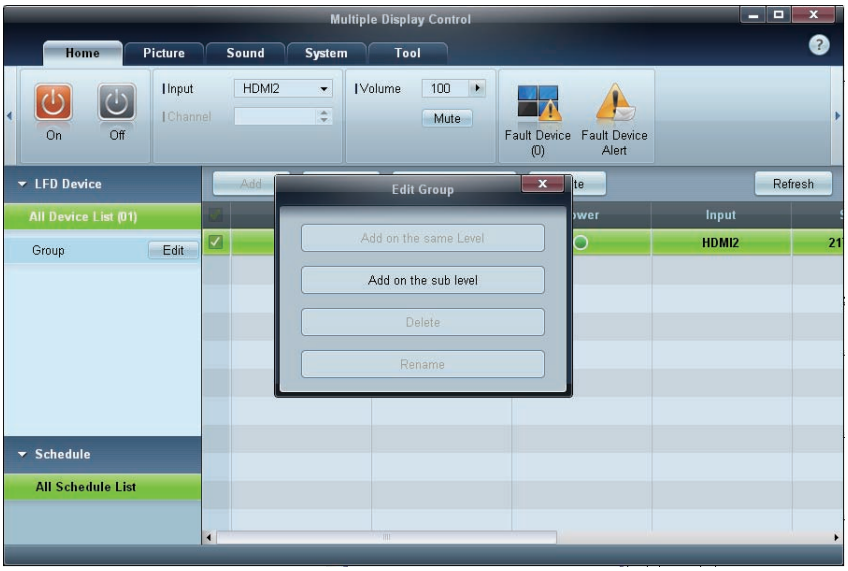
Resizing a Window

Place the mouse pointer on a corner of the program window. An arrow will appear. Move the arrow to customize the size of the program window.



Group Management

Creating Groups



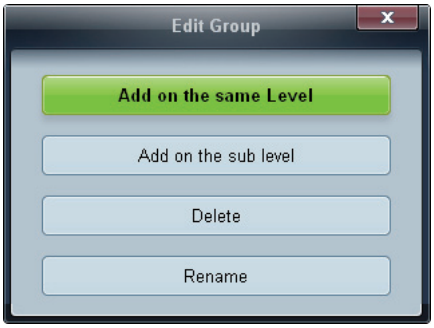
Create groups and manage the list of sets on a group basis.

Duplicate group names cannot be used.

1 Right-click and select **Group>Edit** in the display device list section on the left side of the program window.

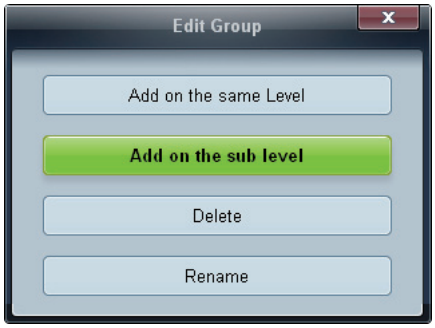
2 In the **Edit Group** window displayed, click **Add on the same level** or **Add on the sub level**.

- **Add on the same level**: Create a group on the same level as the selected group.



The **Add on the same level** button is enabled only if at least one group is created.

- **Add on the sub level**: Create a sub-group under the selected group.

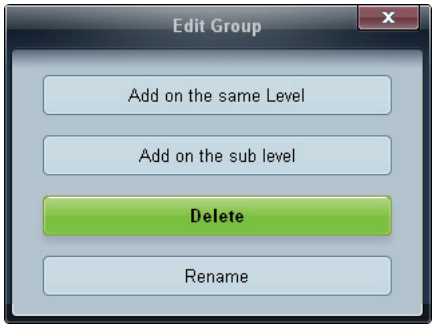


3 Enter the group name.

Deleting Groups

1 Select a group name, and click **Edit**.

2 In the **Edit Group** window displayed, click **Delete**.

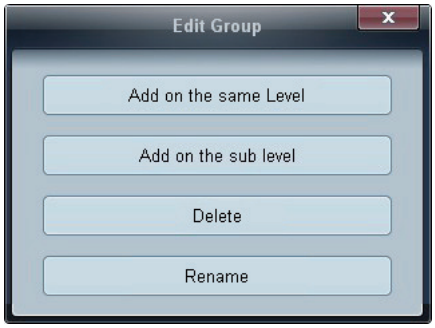


3 Click **Yes**. The group will be deleted.

Renaming Groups

1 Select a group name, and click **Edit**.

2 In the **Edit Group** window displayed, click **Rename**.



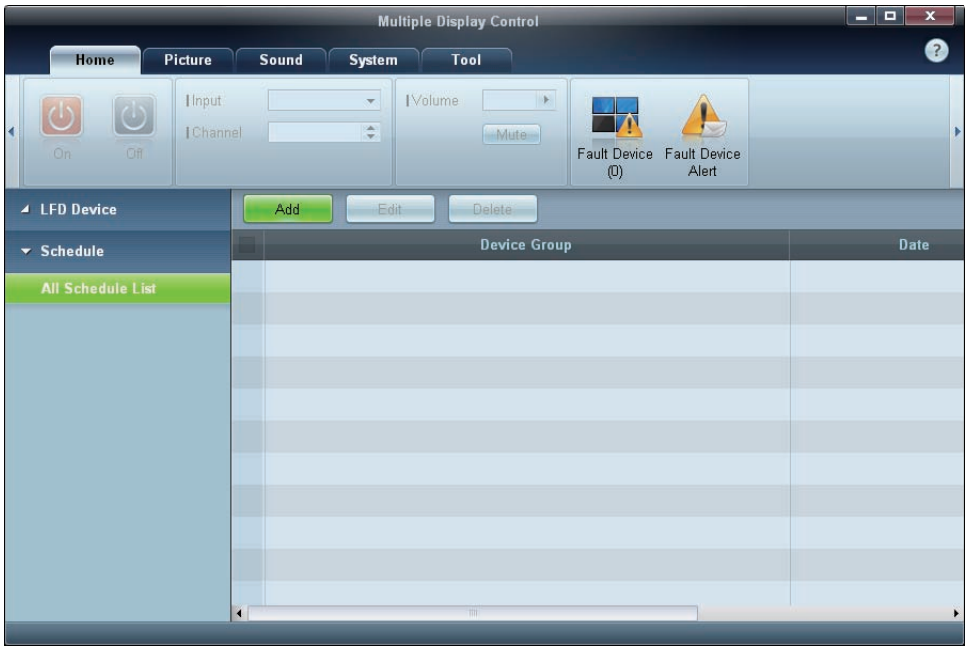
3 If a cursor appears in the old group name, enter a new group name.

Schedule Management

Creating Schedules

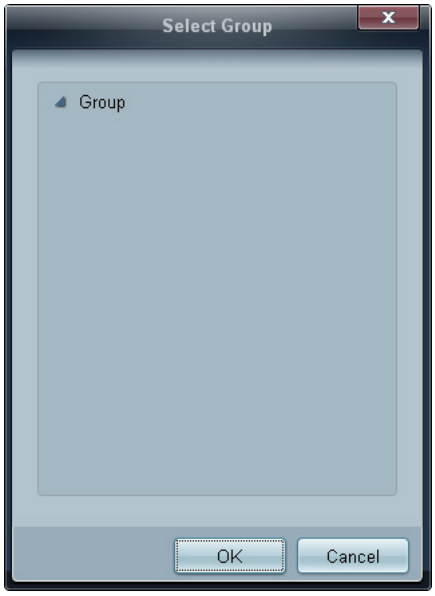
Create and register a schedule on a group basis.

1 Click **All Schedule List** in the schedule section on the left side of the program window. The **Add** button will be enabled in the middle.



2 Click the **Add** button. The **Add Schedule** window will appear.

3 Click **Add** below the **Device Group** item, and select the group you want to add a schedule to.



4 Select **Date&Time/Action** and click **OK**. The schedule will be added and a list of schedules will appear in the set list window.

- **Device Group**: Select a group.
- **Date&Time**
  - **Instant Execution**: Run the schedule immediately.
  - **Timer** : Set the date, time and interval to run the schedule.
- **Action**: Select a function that will activate at the specified time and interval.

Schedule Modification

To modify a schedule, select the schedule and click **Edit**.

Deleting a Schedule

To delete a schedule, select the schedule and click **Delete**.

3.4.14 Troubleshooting Guide

Issue		Solution
The display you want to control does not appear on the system information chart.	1.	Check the connection of the RS232C cable (check that the cable is properly connected to appropriate serial port).
	2.	Check that another display with a duplicate **ID** is not connected. Connecting displays with a duplicate **ID** can cause the displays not to be shown due to data collision.
	3.	Check that the display **ID** is within the range of 0 and 99. (Change the ID using the Display menu.) For a display that supports the ID in a range of 0 to 99, the **ID** should be set between 0 and 99.
The display you want to control does not appear on the other Control Info Grids.	Check that the display is powered on. (See the power status in the system information chart.)	
	Ensure you select the input source the display is connected to.	
The following message appears repeatedly. 	Check that the display you want to control is selected.	
Displays power on or off at different time from one another even though **On Time** or **Off Time** is set.	Adjust the time on the PC to synchronize the time between the connected displays.	
The remote control does not work.	The remote control may not work if the RS-232C cable is removed or the program is closed abnormally while the **Remote Control** function is **Disable**. To resolve this, run the program again and set **Remote Control** to **Enable**.	

This program may malfunction sometimes due to a communication problem between the PC and display or electromagnetic waves emitted from nearby electronic devices.

How display properties are shown when multiple displays are used

1. When no display is selected: The default value is displayed.
2. When one display is selected: Settings for the selected display are displayed.
3. When two displays are selected (e.g. in sequence of **ID** 1 and **ID** 3): The settings for **ID** 1 are displayed before the settings for **ID** 3.
4. When the **All**+**Select** checkbox is checked and all displays are selected: The default settings are displayed.

4 Screen Adjustment

Configure the **Picture** settings (**Brightness**, **Color Tone**, etc.).

- The layout of the **Picture** menu options may vary depending on the product.
- The available options in the **Picture** menu depend on the selected input source and the settings in **Edit Name**. (Refer to page 54 for details about **Edit Name**.)

4.1 Mode

Select a picture mode (**Mode**) suitable for the environment where the product will be used.

This option is available when **Dynamic Contrast** is set to **Off**.
(Refer to page 106 for details about **Dynamic Contrast**)

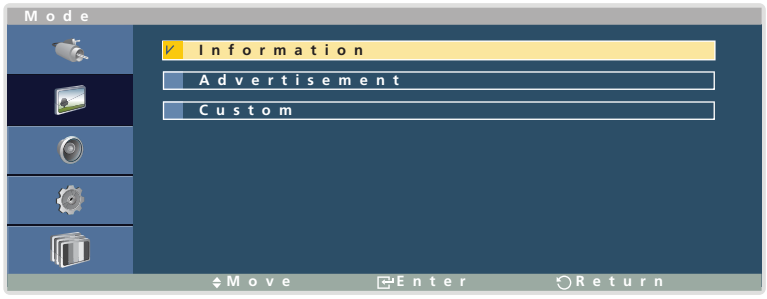
4.1.1 Changing the Picture Mode

This product can only be controlled by using the remote control.

1. Press **MENU** on the remote control.
2. Press ▲/▼ to move to **Picture** and press [↵].
3. Press ▲/▼ to move to **Mode** and press [↵].

Different **Mode** options are displayed depending on the current input source:

If the input source is PC or DVI:



- **Information**: This mode reduces eye fatigue and is suitable for displaying information to the public.
- **Advertisement**: This mode is suitable for displaying video content and indoor/outdoor advertisements.
- **Custom**: Customize **Contrast** and **Brightness** as required.

1. Press ▲/▼ to move to the option you want and press [↵].
   The selected option will be applied.

4.2 Custom

Customize **Tint** under **Picture**.

- Changing any setting under **Custom** will change the **Mode** setting to **Custom**.
- This function is available when **Dynamic Contrast** is set to **Off**.
  (Refer to page 106 for details about **Dynamic Contrast**)

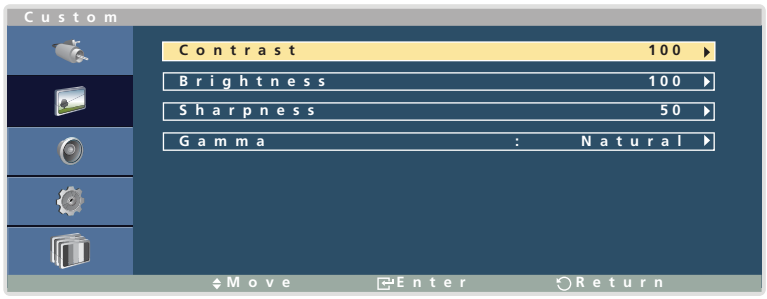
4.2.1 Configuring the Custom Settings

This product can only be controlled by using the remote control.

1. Press **MENU** on the remote control.
2. Press ▲/▼ to move to **Picture** and press [↵].
3. Press ▲/▼ to move to **Custom** and press [↵].

Different **Custom** options are displayed depending on the current input source:

If the input source is PC or DVI:



- **Contrast**

  Adjust the contrast between the objects and background. (Range: 0~100)

  A higher value will increase the contrast to make the object appear clearer.

- **Brightness**

  Adjust the general brightness of the picture. (Range: 0~100)

  A higher value will make the picture appear brighter.

- **Sharpness**

  Make the outline of objects more clear or blurry. (Range: 0~100)

  A higher value will make the outline of objects clearer.

- **Gamma** (**Natural** / **Mode1** / **Mode2** / **Mode3**)

  Adjust the mid-range brightness (Gamma) of the picture.

  Natural displays the original picture. **Mode1** displays the picture brighter than **Natural** mode. **Mode2** displays the screen darker than **Mode1**. **Mode3** displays dark parts darker and bright parts brighter.

1 Press ▲/▼ to move to the option you want and press [↵]. A window will appear where you can adjust the value for the selected option.

2 Press ◀/▶ to adjust the value and press [↵]. The change will be applied.

If the input source is DVI:

If **Edit Name** is configured as a source other than **PC** or **DVI PC** and the resolution is 640x480 60Hz, 1280x720 50Hz, 60Hz, 720x480 60Hz, or 720x576 50Hz then the following features can be adjusted.

- **Contrast**

  Adjust the contrast between the objects and background. (Range: 0~100)

  A higher value will increase the contrast to make the object appear clearer.

- **Brightness**

  Adjust the general brightness of the picture. (Range: 0~100)

  A higher value will make the picture appear brighter.

- **Sharpness**

  Make the outline of objects more clear or blurry. (Range: 0~100)

  A higher value will make the outline of objects clearer.

- **Color**

  Increase or decrease the color intensity. (Range: 0~100)

  A higher value will increase the color intensity.

- **Tint**

  Adjust the intensity of the red and green colors. (Range: 0~100)

  Increasing the red level will make the red color more prominent in the picture. Increasing the green level will make the green color more prominent in the picture.

1 Press ▲/▼ to move to the option you want and press [↵]. A window will appear where you can adjust the value for the selected option.

2 Press ◀/▶ to adjust the value and press [↵]. The change will be applied.

4.3 Color Tone

Adjust the general color tone of the picture.

- This function is available when **Dynamic Contrast** is set to **Off**.
  (Refer to page 106 for details about **Dynamic Contrast**)
- Changing any setting under **Color Tone** will change the **Mode** setting to **Custom**.

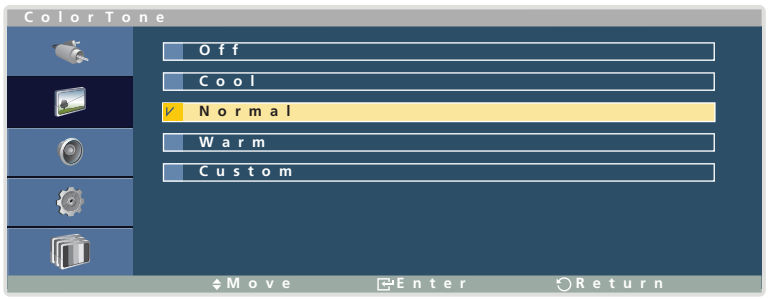
4.3.1 Configuring the Color Tone Settings

This product can only be controlled by using the remote control.

1. Press **MENU** on the remote control.
2. Press ▲/▼ to move to **Picture** and press [↵].
3. Press ▲/▼ to move to **Color Tone** and press [↵].

Different **Color Tone** options are displayed depending on the current input source:

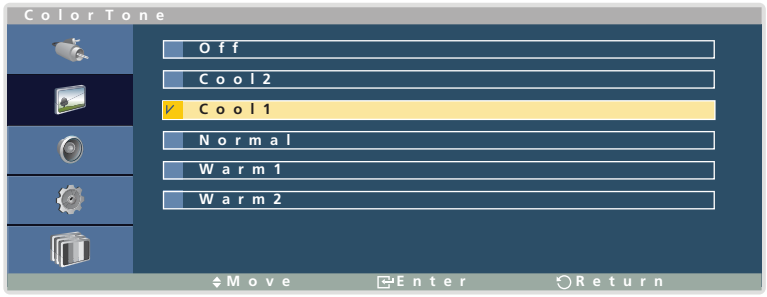
If the input source is PC or DVI:



1. Press ▲/▼ to move to the option you want and press [↵].
   The selected option will be applied.

If the input source is DVI:

If **Edit Name** is configured as a source other than **PC** or **DVI PC** and the resolution is 640x480 60Hz, 1280x720 50Hz, 60Hz, 720x480 60Hz, or 720x576 50Hz then the following features can be adjusted.



1 Press ▲/▼ to move to the option you want and press [↵].

The selected option will be applied.

4.4 Color Control

Change the color settings for the picture by adjusting the **Red**, **Green** and **Blue** values. (Range: 0~100)

A higher value will increase the intensity of the selected color.

- This option is available when the input source is **PC** or **DVI**.
- This function is not available when **Color Tone** is set to **Off**. To enable the function, **Dynamic Contrast** must be set to **Off**.

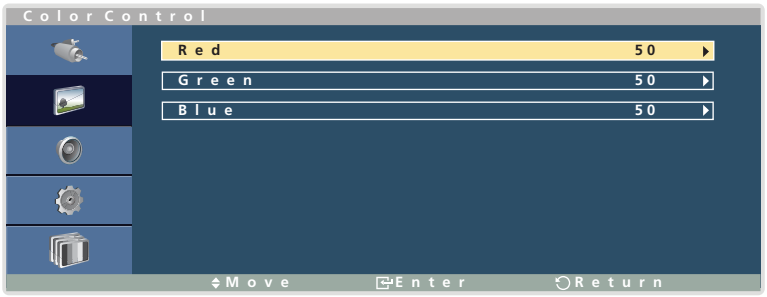
  (Refer to page 95 and page 106 for details about **Color Tone** and **Dynamic Contrast**.)

4.4.1 Configuring the Color Control Settings

This product can only be controlled by using the remote control.

1. Press **MENU** on the remote control.
2. Press ▲/▼ to move to **Picture** and press [↵].
3. Press ▲/▼ to move to **Color Control** and press [↵].

   The following screen will appear.



4. Press ▲/▼ to move to the option you want and press [↵].

   A window will appear where you can adjust the value for the selected option.

5. Press ◀/▶ to adjust the value and press [↵].

   The change will be applied.

4.5 Color Temp.

Adjust the color temperature (**Red**/**Green**/**Blue**). (Range: 5000K–15000K)

This function is available when **Dynamic Contrast** and **Color Tone** are set to **Off**.

(Refer to page 95 and page 106 for details about **Color Tone** and **Dynamic Contrast**.)

4.5.1 Configuring the Color Temp. Settings

This product can only be controlled by using the remote control.

1. Press **MENU** on the remote control.
2. Press ▲/▼ to move to **Picture** and press [↵].
3. Press ▲/▼ to move to **Color Temp.** and press [↵].

   The following screen will appear.
4. Press ◀/▶ to adjust the value and press [↵]. The change will be applied.

4.6 Image Lock

Enhance the picture quality by removing noise (static) such as flickering and shaking.

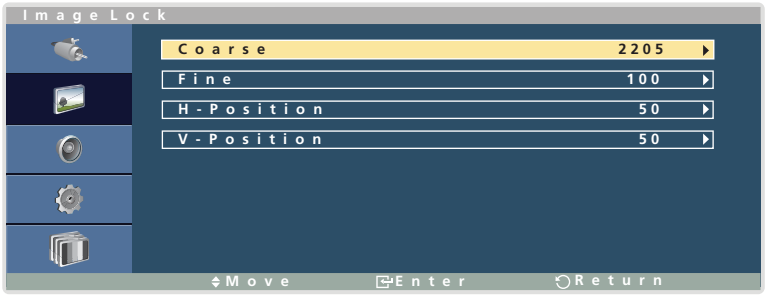
This option is available when the input source is **PC**.

4.6.1 Configuring the Image Lock Settings

This product can only be controlled by using the remote control.

1. Press **MENU** on the remote control.
2. Press ▲/▼ to move to **Picture** and press [↵].
3. Press ▲/▼ to move to **Image Lock** and press [↵].

   The following screen will appear.



- **Coarse**

  Remove vertical noise (stripes) on the screen.

  If the screen is in a different position after the frequency is adjusted using Coarse, move the screen to the center by using the **H-Position**/**V-Position** menu.

- **Fine**

  Remove horizontal noise (stripes) on the screen.

  If noise is not completely removed after **Fine** adjustment, adjust the frequency using Coarse until noise is minimized and then adjust using **Fine** again.

- **H-Position**

  Adjust the screen position. The screen can be moved left or right.

- **V-Position**

  Adjust the screen position. The screen can be moved up or down.

4. Press ▲/▼ to move to the option you want and press [↵].
5. Press ◀/▶ to adjust the value and press [↵]. The change will be applied.

4.7 Auto Adjustment

Automatically adjust the **Coarse**, **Fine**, **H-Position** and **V-Position** settings.

This function can be used to automatically detect and remove noise on the screen and correct the screen position.

This function will automatically run if the screen resolution is changed.

This option is available when the input source is **PC**.

4.7.1 Configuring the Auto Adjustment Settings

This product can only be controlled by using the remote control.

1. Press **MENU** on the remote control.
2. Press ▲/▼ to move to **Picture** and press [↵].
3. Press ▲/▼ to move to **Auto Adjustment** and press [↵].
4. The screen settings will automatically be adjusted.

4.8 Signal Balance

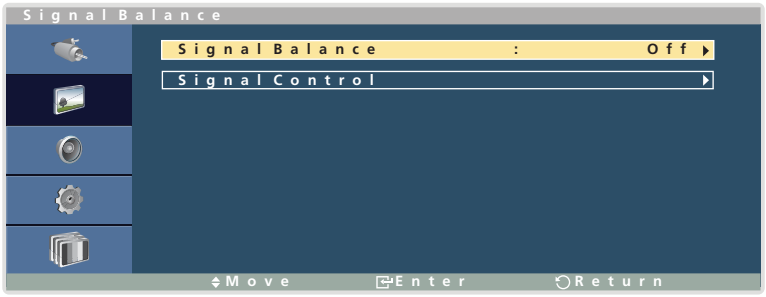
This function is used to supplement a weak RGB signal being transmitted through a long cable.

This function is available when the input source is **PC** and **Dynamic Contrast** is set to **Off**.
(Refer to page 106 for details about **Dynamic Contrast**)

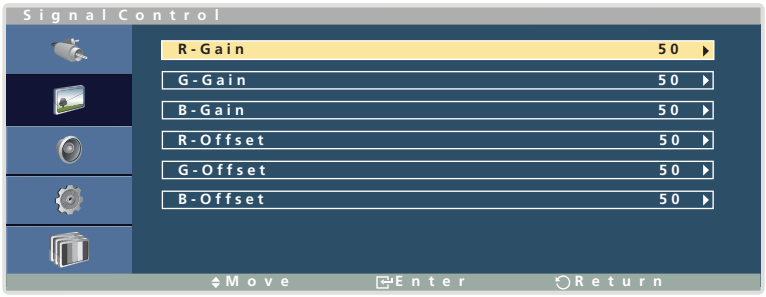
4.8.1 Configuring the Signal Balance Settings

This product can only be controlled by using the remote control.

1. Press **MENU** on the remote control.
2. Press ▲/▼ to move to **Picture** and press [↵].
3. Press ▲/▼ to move to **Signal Balance** and press [↵].
   The following screen will appear.



4. Press ▲/▼ to move to the option you want and press [↵].
   The selected option will be applied.
5. Press ▲/▼ to move to **Signal Control** and press [↵].
   The following screen will appear.



Signal Control is enabled when **Signal Balance** is set to **On**.

6 Press ▲/▼ to move to the option you want and press [↵].

The following screen will appear.

Specify the RGB (Red/Green/Blue) Gain and Offset values. **R-Gain**, **G-Gain** and **B-Gain** adjust the level of red, green and blue colors in the brighter parts of the screen (range: 0–100). **R-Offset**, **G-Offset** and **B-Offset** adjust the level of red, green and blue colors in the darker parts of the screen (range: 0–100). A higher value will increase the level of the selected color.

7 Press ◀/▶ to adjust the value and press [↵]. The change will be applied.

4.9 Size

Change the picture size.

4.9.1 Changing the Picture Size

This product can only be controlled by using the remote control.

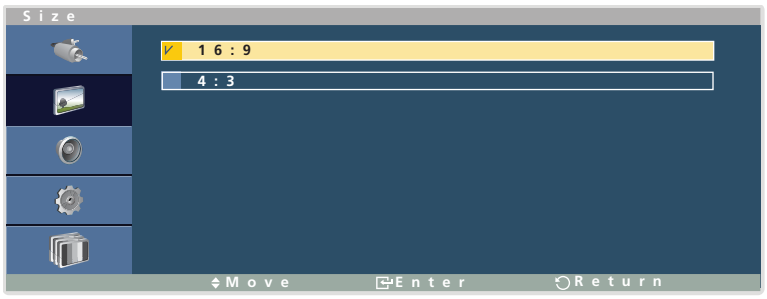
1 Press **MENU** on the remote control.

2 Press ▲/▼ to move to **Picture** and press [↵].

3 Press ▲/▼ to move to **Size** and press [↵].

Different **Size** options are displayed depending on the current input source:

If the input source is PC or DVI:



- **16:9**: Display images with an aspect ratio of **16:9**. Suitable for viewing DVD content or widescreen broadcasts.
- **4:3**: Display images with an aspect ratio of **4:3**. Suitable for viewing video content or standard broadcasts.

1 Press ▲/▼ to move to the option you want and press [↵].

The selected option will be applied.

4.10 Digital NR

Improve the picture quality by minimizing noise (static) on the screen.

Some resolutions do not support **Digital NR**.

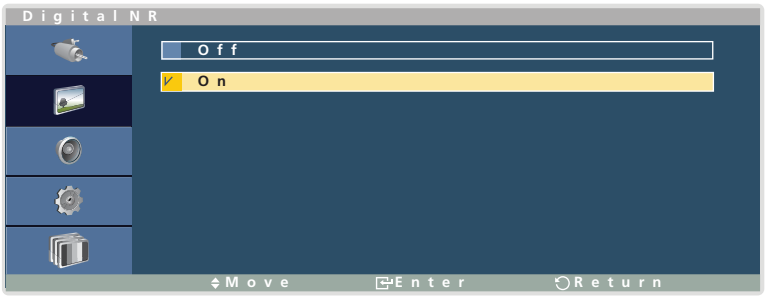
4.10.1 Enabling Digital NR

This product can only be controlled by using the remote control.

1. Press **MENU** on the remote control.
2. Press ▲/▼ to move to **Picture** and press [↵].
3. Press ▲/▼ to move to **Digital NR**, and press [↵].
4. Press ▲/▼ to move to the option you want and press [↵].
   The selected option will be applied.

If the input source is DVI:

If **Edit Name** is configured as a source other than **PC** or **DVI PC** and the resolution is 640x480 60Hz, 1280x720 50Hz, 60Hz, 720x480 60Hz, or 720x576 50Hz then the following features can be adjusted.



4.11 HDMI Black Level

If you use the product by connecting to a DVD player or set-top box with a DVI cable, the contrast and color may degrade and the picture may be darker. If this is the case, correct the degraded picture quality using **HDMI Black Level**. (**Normal**/**Low**)

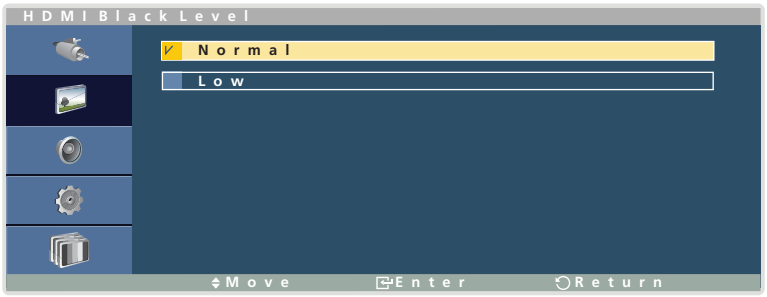
This option is available when a source device that has an HDMI port is connected and the input source is set to **DVI**.

4.11.1 Configuring the HDMI Black Level Settings

This product can only be controlled by using the remote control.

1. Press **MENU** on the remote control.
2. Press ▲/▼ to move to **Picture** and press [↵].
3. Press ▲/▼ to move to **HDMI Black Level** and press [↵].

   The following screen will appear.



- **Normal**: Set the brightness (darkness) of the darkest parts of the screen to Normal.
- **Low**: Set the brightness (darkness) of the darkest parts of the screen to be brighter than Normal.

4. Press ▲/▼ to move to the option you want and press [↵].

   The selected option will be applied.

4.12 Dynamic Contrast

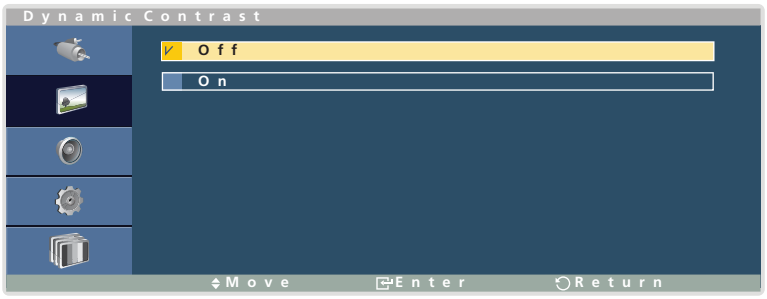
Maintain optimum contrast by automatically adjusting the contrast between objects and the background.

You can enable or disable **Dynamic Contrast**. (**Off**/**On**)

4.12.1 Changing the Dynamic Contrast Setting

This product can only be controlled by using the remote control.

1. Press **MENU** on the remote control.
2. Press ▲/▼ to move to **Picture** and press [↵].
3. Press ▲/▼ to move to **Dynamic Contrast** and press [↵].
   The following screen will appear.



4. Press ▲/▼ to move to the option you want and press [↵].
   The selected option will be applied.

4.13 Lamp Control

This function is used to adjust the brightness of the backlight to reduce power consumption. (Range: 0~100)

This option is available when **Dynamic Contrast** is set to **Off**.

(Refer to page 106 for details about **Dynamic Contrast**)

4.13.1 Changing the Lamp Control Setting

This product can only be controlled by using the remote control.

1. Press **MENU** on the remote control.
2. Press ▲/▼ to move to **Picture** and press [↵].
3. Press ▲/▼ to move to **Lamp Control** and press [↵].

   The following screen will appear.

4. Press ◀/▶ to adjust the value and press [↵]. The change will be applied.

4.14 Picture Reset

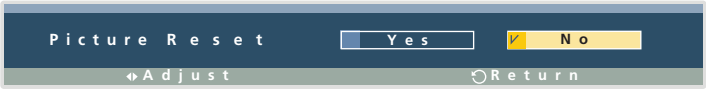
Restore the default picture settings.

4.14.1 Activating Picture Reset

This product can only be controlled by using the remote control.

1. Press **MENU** on the remote control.
2. Press ▲/▼ to move to **Picture** and press [↵].
3. Press ▲/▼ to move to **Picture Reset** and press [↵].

   The following screen will appear.



4. Press ◀/▶ to select **Yes** or **No** and press [↵].

   The selected option will be applied.

5 Sound Adjustment

Configure the sound (**Sound**) settings for the product.

5.1 Mode

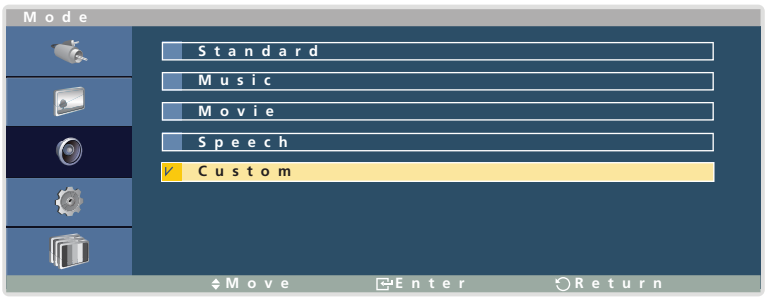
Select a sound mode (**Mode**) suitable for the environment where the product will be used.

5.1.1 Changing the Mode Setting

This product can only be controlled by using the remote control.

1. Press **MENU** on the remote control.
2. Press ▲/▼ to move to **Sound** and press [↵].
3. Press ▲/▼ to move to **Mode** and press [↵].

   The following screen will appear.



- **Standard**: Provides sound suitable for any type of content.
- **Music**: Provides sound close to the original experience.
- **Movie**: Provides a grand sound experience.
- **Speech**: Hear voices clearly.
- **Custom**: Customize the sound as required.

4. Press ▲/▼ to move to the option you want and press [↵].

   The selected option will be applied.

5.2 Custom

You can customize the sound settings.

5.2.1 Configuring the Custom Settings

This product can only be controlled by using the remote control.

1 Press **MENU** on the remote control.

2 Press ▲/▼ to move to **Sound** and press [↵].

3 Press ▲/▼ to move to **Custom** and press [↵].

The following screen will appear.

- **Bass**: Adjust the bass level. (Range: 0~100)
- **Treble**: Adjust the treble level. (Range: 0~100)
- **Balance** : Balance the sound by adjusting the volume between the left and right speakers.

4 Press ▲/▼ to move to the option you want and press [↵].

A window will appear where you can adjust the value for the selected option.

5 Press ◀/▶ to adjust the value and press [↵]. The change will be applied.

- With some products, sound may be heard even when the volume is set to 0.
- Changing any setting under **Custom** will change the **Mode** settings to **Custom**.

5.3 Auto Volume

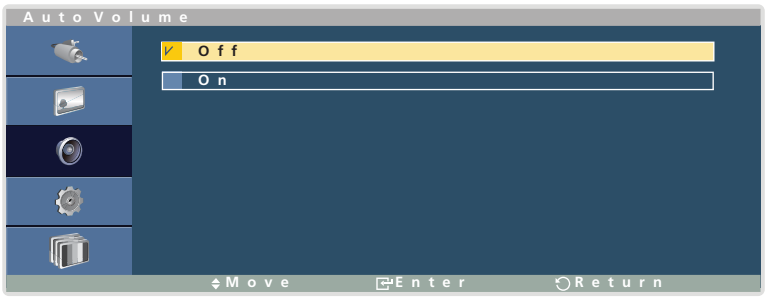
This function can be used to adjust the volume to an appropriate level if the volume is particularly higher or lower than usual.

5.3.1 Changing the Auto Volume Setting

This product can only be controlled by using the remote control.

1. Press **MENU** on the remote control.
2. Press ▲/▼ to move to **Sound** and press [↵].
3. Press ▲/▼ to move to **Auto Volume** and press [↵].

   The following screen will appear.



4. Press ▲/▼ to move to the option you want and press [↵].

   The selected option will be applied.

5.4 SRS TS XT

You can enjoy the grand and vivid sound quality of 5.1-channel speakers using two speakers. TruSurround (TS) XT provides realistic surround sound through any type of 2-channel speaker system such as internal speakers. It is also fully compatible with all multi-channel formats.

5.4.1 Setting SRS TS XT

This product can only be controlled by using the remote control.

1. Press **MENU** on the remote control.
2. Press ▲/▼ to move to **Sound** and press [↵].
3. Press ▲/▼ to move to **SRS TS XT** and press [↵].

   The following screen will appear.

4. Press ▲/▼ to move to the option you want and press [↵].

   The selected option will be applied.

5.5 Sound Reset

Return the sound settings to the default factory settings.

5.5.1 Resetting Sound Settings (Sound Reset)

This product can only be controlled by using the remote control.

1. Press **MENU** on the remote control.
2. Press ▲/▼ to move to **Sound** and press [↵].
3. Press ▲/▼ to move to **Sound Reset** and press [↵]. The following screen will appear.

4. Press ◀/▶ to move to the option you want and press [↵].

   The selected option will be applied.

6 Settings

You can configure additional settings as required.

6.1 Language

Set the menu language.

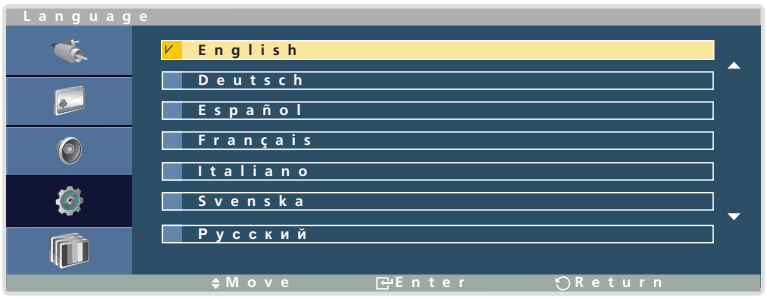
- English / Deutsch / Español / Français / Italiano / Svenska / Русский / Português Türkçe / 简体中文 / 繁體中文 / 日本語 / 한국어

A change to the language setting will only be applied to the onscreen menu display. It will not be applied to other functions on your PC.

6.1.1 Changing the Language

This product can only be controlled by using the remote control.

1. Press **MENU** on the remote control.
2. Press ▲/▼ to move to **Setup** and press [↵].
3. Press ▲/▼ to move to **Language** and press [↵].
4. Press ▲/▼ to move to the language you want and press [↵].



5. Menus will be displayed in the new language that was changed.

6.2 Time

You can configure **Clock Set** or **Sleep Timer**. You can also set the product to automatically turn on or off at a specified time using the **Timer** function.

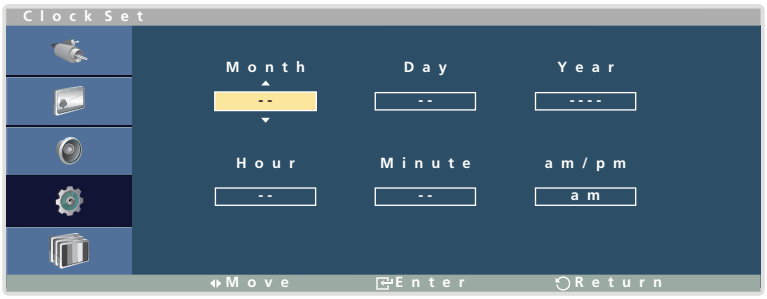
6.2.1 Clock Set

Set the current time.

Changing the Setting for Clock Set

This product can only be controlled by using the remote control.

1. Press **MENU** on the remote control.
2. Press ▲/▼ to move to **Setup** and press [↵].
3. Press ▲/▼ to move to **Time** and press [↵].
4. Press ▲/▼ to move to **Clock Set** and press [↵].
5. In the displayed **Clock Set** window, set the current time using the direction keys.



6. Press [↵] or [↩] when all settings are complete. The settings will be applied.

6.2.2 Sleep Timer

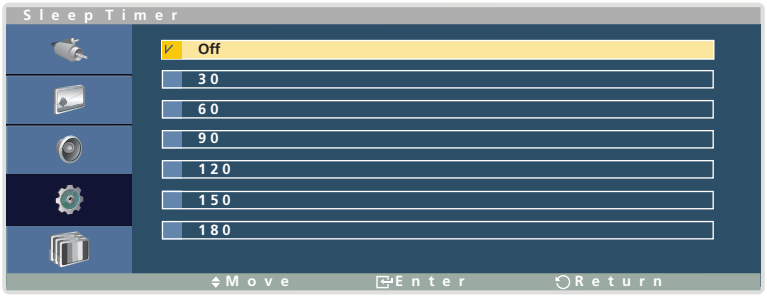
Set the product to automatically power on or off after a specified period of time.

You can select the time to turn off the product from 30, 60, 90, 120, 150 or 180 minutes from the current time.

Setting Sleep Timer

This product can only be controlled by using the remote control.

1. Press **MENU** on the remote control.
2. Press ▲/▼ to move to **Setup** and press [↵].
3. Press ▲/▼ to move to **Time** and press [↵].
4. Press ▲/▼ to move to **Sleep Timer**, and press [↵].
5. Press ▲/▼ to move to the time you want and press [↵].



6. **Sleep Timer** will activate after the selected time.

6.2.3 Timer1 / Timer2 / Timer3

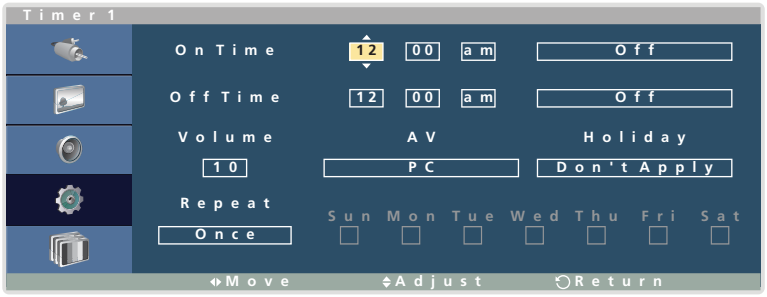
Set the product to automatically power on or off at a specified time.

The product will power on, preserving the same volume and input source settings as when it powered off.

Setting Timer

This product can only be controlled by using the remote control.

1. Press **MENU** on the remote control.
2. Press ▲/▼ to move to **Setup** and press [↵].
3. Press ▲/▼ to move to **Time** and press [↵].
4. Press ▲/▼ to move to **Timer1**, **Timer2** or **Timer3** and press [↵].
5. In the displayed **Timer** window, set the timer using the direction keys.



6. Press [↵] or [↩] when all settings are complete. The settings will be applied.

- Timer will only activate when the current time is set (**Clock Set**).
- **Holiday**(**Apply**/**Don't Apply**) : When Repeat is applied to the timer, the Holiday option can be used to set the timer not to activate on specified days of the week.
- The day selector boxes at the bottom will be disabled if **Holiday** is set to **Don't Apply**.

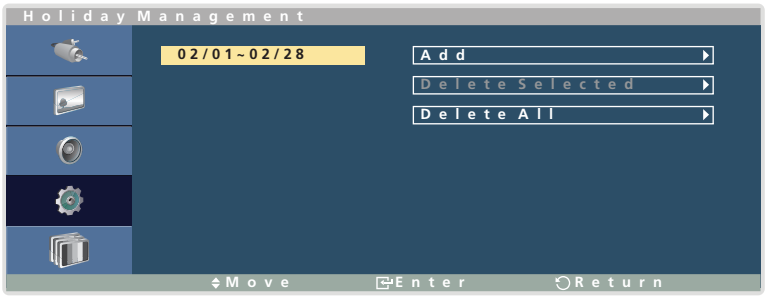
6.2.4 Holiday Management

Timer will be disabled during a period specified as a holiday.

Setting Holiday Management

This product can only be controlled by using the remote control.

1. Press **MENU** on the remote control.
2. Press ▲/▼ to move to **Setup** and press [↵].
3. Press ▲/▼ to move to **Time** and press [↵].
4. Press ▲/▼ to move to **Holiday Management** and press [↵].



- **Add**: Specify the period you want to add as a holiday.
  - Go to the **Add** menu, and press [↵].
  - Press ▲/▼ to specify the period and press [↵] or [↩].
  - The period will be added to the list of holidays.
- **Delete Selected**: Delete an item from the list of holidays.
  - Select an item from the list of holidays and press [↵].
  - The **Delete Selected** option will be activated.
  - Move to **Delete Selected** and press [↵]. The message "**Delete the selected holidays?**" will appear.
  - Select **Yes**. The selected holiday will be deleted.
- **Delete All**: Delete all items from the list of holidays.

  Select **Delete All**. The message "**Delete all holidays?**" will appear.

  Select **Yes**. All holidays will be deleted.

6.3 Menu Transparency

Set the transparency for the menu windows:

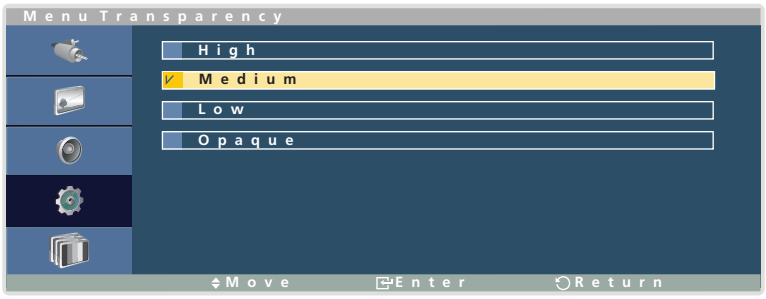
High, **Medium**, **Low**, **Opaque**

- Select **Menu Transparency** and move to the option you want. The menu window will be displayed as a preview for the selected transparency.
- Move to the option you want, and press [↵] or [↩]. The selected option will be applied.

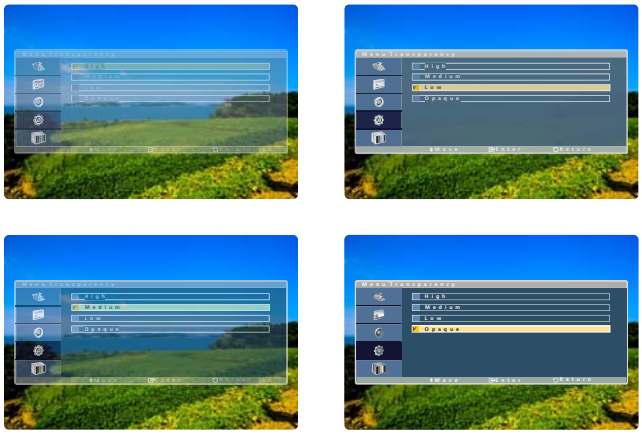
6.3.1 Changing Menu Transparency

This product can only be controlled by using the remote control.

1. Press **MENU** on the remote control.
2. Press ▲/▼ to move to **Setup** and press [↵].
3. Press ▲/▼ to move to **Menu Transparency** and press [↵].
4. Press ▲/▼ to select the option you want and press [↵].



5. The selected option will be applied.



6.4 Safety Lock

Lock the product in order to prevent the product from malfunction or unintended changes to the settings, or change the PIN used for locking the product.

6.4.1 Change PIN

Change the PIN required to lock the product.

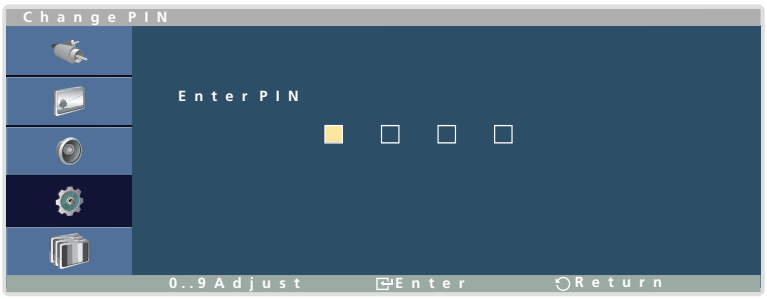
The default PIN is "0000."

Select **Change PIN** to open a PIN input field.

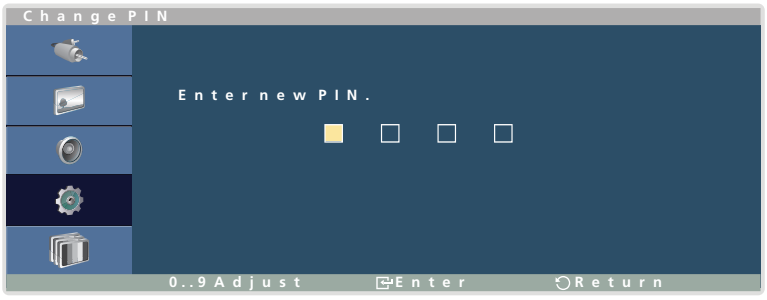
Changing the PIN (Change PIN)

This product can only be controlled by using the remote control.

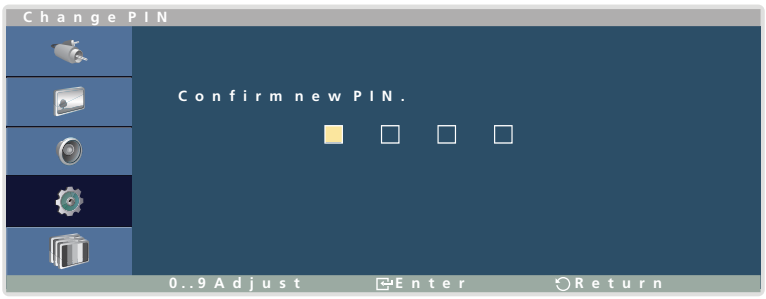
1. Press **MENU** on the remote control.
2. Press ▲/▼ to move to **Setup** and press [↵].
3. Press ▲/▼ to move to **Safety Lock** and press [↵].
4. Press ▲/▼ to move to **Change PIN** and press [↵].
5. Enter the current PIN in the displayed PIN input field.



6. Enter a new PIN.



7 Re-enter the new PIN.



8 The PIN has been changed.

Entering the current PIN will display a new PIN input window.

Enter a new PIN and enter it again to confirm. The message "**PIN is changed successfully.**" will appear to indicate that the PIN has successfully been changed.

If you forgot the PIN, press **INFO** -> **EXIT** -> **MUTE** on the remote control to restore the default PIN (0000).

6.4.2 Lock

Prevent the product from malfunction or unintended changes to the settings with the Lock feature.

Select **Lock** and enter the PIN to activate lock mode.

To deactivate **Lock** mode, press any key and enter the PIN.

Setting Lock

This product can only be controlled by using the remote control.

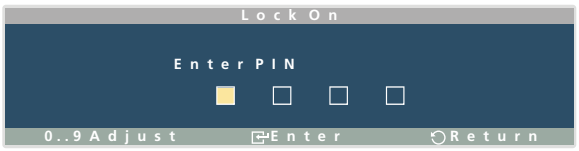
1 Press **MENU** on the remote control.

2 Press ▲/▼ to move to **Setup** and press [↵].

3 Press ▲/▼ to move to **Safety Lock** and press [↵].

4 Press ▲/▼ to move to **Lock** and press [↵].

5 Enter your PIN in the displayed **Lock On** window.



6 Lock mode will activate.

Under **Lock** mode, all controls on the product are disabled until you unlock by entering the PIN.

6.5 Energy Saving

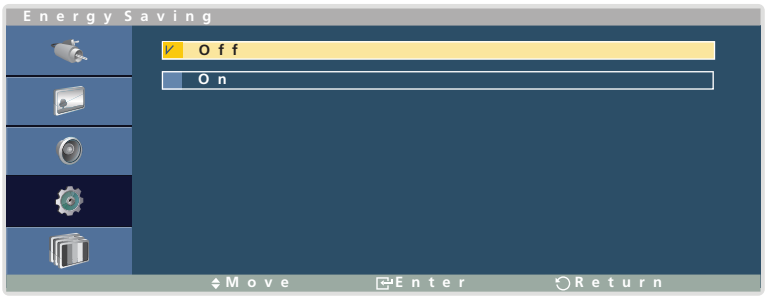
Save power with the **Energy Saving** feature.

While **Energy Saving** mode is active, the product power consumption will be controlled to save power.

6.5.1 Setting Energy Saving

This product can only be controlled by using the remote control.

1. Press **MENU** on the remote control.
2. Press ▲/▼ to move to **Setup** and press [↵].
3. Press ▲/▼ to move to **Energy Saving** and press [↵].
4. Press ▲/▼ to select the option you want and press [↵].



5. The selected option will be applied.

6.6 Video Wall

Customize the layout of multiple displays that are connected to form a video wall.

In addition, display part of a whole picture or repeat the same picture on each of the connected multiple displays.

To display multiple images, refer to MDC Help or the MagicInfo user guide.

Some models may not support the MagicInfo function.

If more than four displays are connected horizontally and vertically, it is recommended that you use an input resolution of XGA (1024 x 768) level or higher to prevent a dark picture due to degradation in the contrast or color intensity.

6.6.1 Video Wall

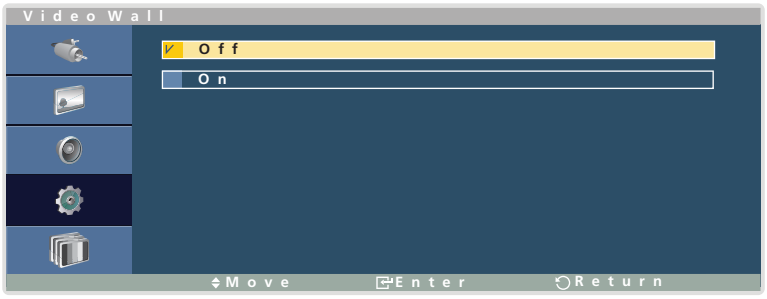
You can activate or deactivate **Video Wall**.

To organize a video wall, select **On**.

Enabling Video Wall

This product can only be controlled by using the remote control.

1. Press **MENU** on the remote control.
2. Press ▲/▼ to move to **Setup** and press [↵].
3. Press ▲/▼ to move to **Video Wall** and press [↵].
4. Press ▲/▼ to select the option you want and press [↵].



5. The selected option will be applied.

6.6.2 Format

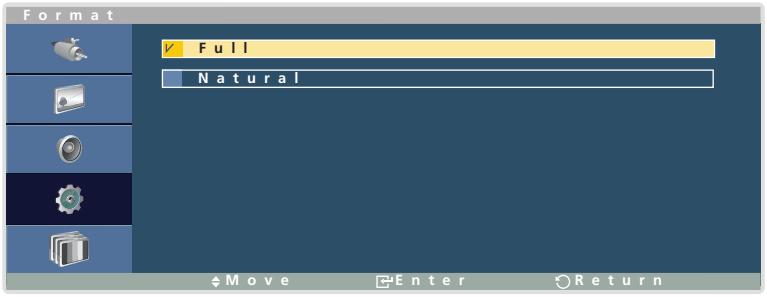
Select a format to display images on multiple displays.

- **Full** : Display images in full screen.
- **Natural** : Display images at the original resolution without enlarging or reducing.

Changing Format

This product can only be controlled by using the remote control.

1. Press **MENU** on the remote control.
2. Press ▲/▼ to move to **Setup** and press [↵].
3. Press ▲/▼ to move to **On** under **Video Wall** and press [↵].
4. Press ▲/▼ to move to **Format** and press [↵].
5. Press ▲/▼ to select the option you want and press [↵].



6. The selected option will be applied.

The Screen Position option is only enabled when **Video Wall** is set to **On**.

6.6.3 Horizontal

This function automatically divides the screen according to the specified number of horizontal displays.

Enter the number of horizontally arranged displays.

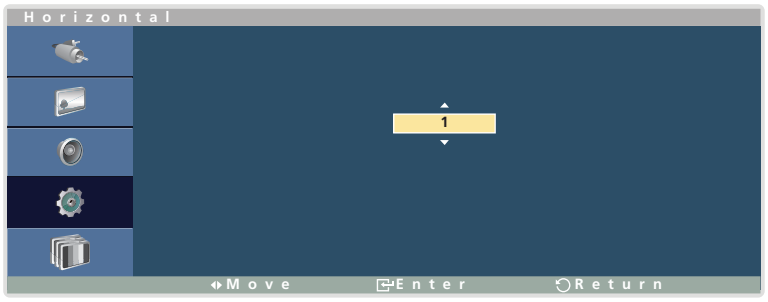
The horizontal screen will automatically be divided according to the number entered.

A maximum of 15 displays can be assigned to the horizontal arrangement.

Setting Horizontal

This product can only be controlled by using the remote control.

1. Press **MENU** on the remote control.
2. Press ▲/▼ to move to **Setup** and press [↵].
3. Press ▲/▼ to move to **On** under **Video Wall** and press [↵].
4. Press ▲/▼ to move to **Horizontal** and press [↵].
5. Press ▲/▼ to select a number, and press [↵].



6. The screen will be divided according to the selected number.

- The screen can be divided into a maximum of 100 screens (horizontal and vertical screens multiplied). But, if the horizontal arrangement is set to 15, a maximum of 6 displays can be assigned to the vertical arrangement. Conversely, if the vertical arrangement is set to 15, a maximum of 6 displays can be assigned to the horizontal arrangement.
- The Screen Position option is only enabled when **Video Wall** is set to **On**.

6.6.4 Vertical

This function automatically divides the screen according to the specified number of vertical displays.

Enter the number of vertically arranged displays.

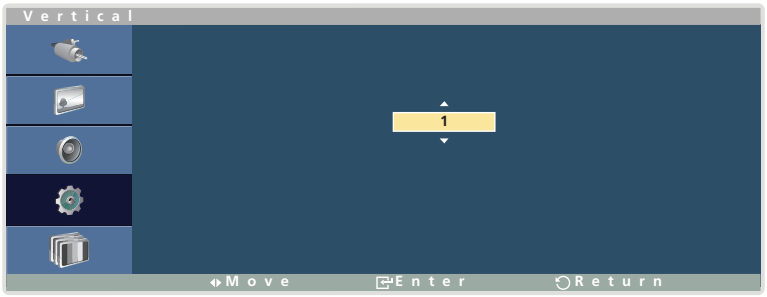
The vertical screen will automatically be divided according to the number entered.

A maximum of 15 displays can be assigned to the vertical arrangement.

Setting Vertical

This product can only be controlled by using the remote control.

1. Press **MENU** on the remote control.
2. Press ▲/▼ to move to **Setup** and press [↵].
3. Press ▲/▼ to move to **On** under **Video Wall** and press [↵].
4. Press ▲/▼ to move to **Vertical** and press [↵].
5. Press ▲/▼ to select a number, and press [↵].



6. The screen will be divided according to the selected number.

- The screen can be divided into a maximum of 100 screens (horizontal and vertical screens multiplied). But, if the horizontal arrangement is set to 15, a maximum of 6 displays can be assigned to the vertical arrangement. Conversely, if the vertical arrangement is set to 15, a maximum of 6 displays can be assigned to the horizontal arrangement.
- The Screen Position option is only enabled when **Video Wall** is set to **On**.

6.6.5 Screen Position

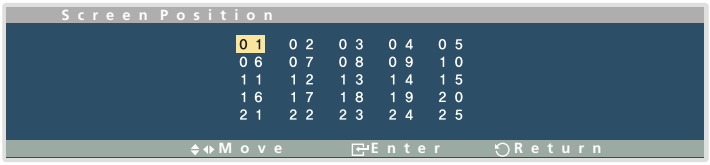
You can customize the arrangement of split screens by moving displays identified with a number using the **Screen Position** function.

Select Screen Position to display the arrangement of displays (identified with a number) specified according to the Horizontal or Vertical settings. To customize the arrangement, move a number (display) using the direction buttons on the remote control and press [↵].

Changing Screen Position

This product can only be controlled by using the remote control.

1. Press **MENU** on the remote control.
2. Press ▲/▼ to move to **Setup** and press [↵].
3. Press ▲/▼ to move to **On** under **Video Wall** and press [↵].
4. Press ▲/▼ to move to **Screen Position** and press [↵].
5. Press ▲/▼ to move a number (display) as required and press [↵].



6. The new arrangement after the change will be displayed.

- A maximum of 100 displays can be arranged in **Screen Position**.
- The Screen Position option is only enabled when **Video Wall** is set to **On**.
- The Screen Position window is only displayed when **Horizontal** and **Vertical** are configured.

6.7 Safety Screen

This product uses a **Safety Screen** function to prevent afterimage burn-in on the screen when a stationary image is displayed for an extended period of time. The **Safety Screen** function allows you to configure various settings to protect the screen.

6.7.1 Pixel Shift

Prevent afterimage burn-in by moving pixels slightly at specified intervals.

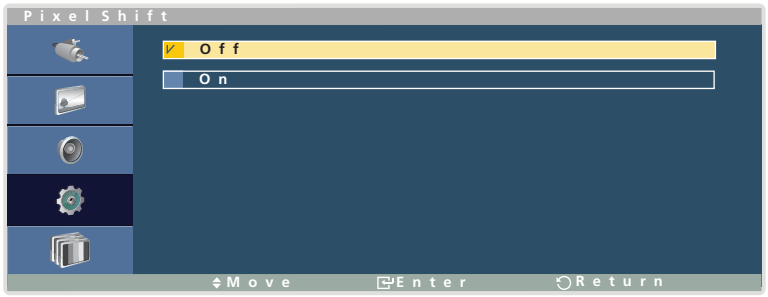
Setting Pixel Shift

This product can only be controlled by using the remote control.

1. Press **MENU** on the remote control.
2. Press ▲/▼ to move to **Setup** and press [↵].
3. Press ▲/▼ to move to **Safety Screen** and press [↵].
4. Press ▲/▼ to move to **Pixel Shift** and press [↵].

- **Pixel Shift**

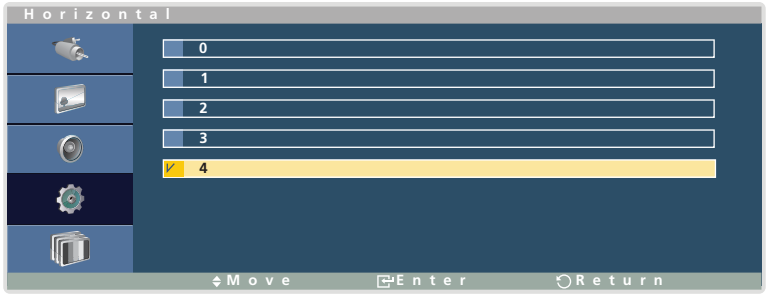
  Activate or deactivate **Pixel Shift**.



Press ▲/▼ to select the option you want and press [↵].

- **Horizontal**

  Specify how many pixels you want to move horizontally. (Range: 0~4)

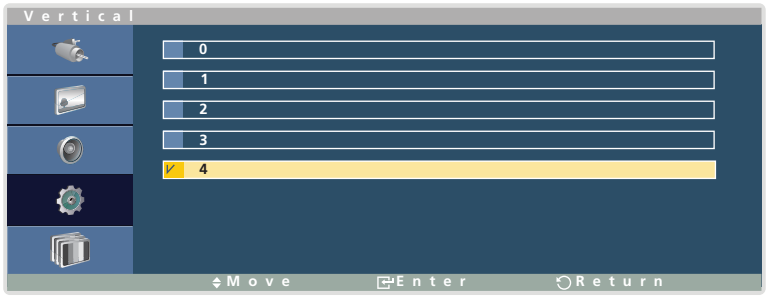


Press ▲/▼ to select a number, and press [↵].

A higher value will minimize the chance of afterimage burn-in but slight flickering may occur.

- **Vertical**

  Specify how many pixels you want to move vertically. (Range: 0~4)

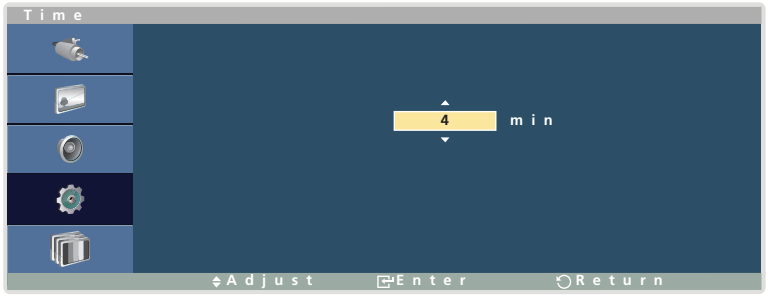


Press ▲/▼ to select a number, and press [↵].

A higher value will minimize the chance of afterimage burn-in but slight flickering may occur.

- **Time**

  Set the time interval to move the specified number of pixels horizontally and vertically.



Press ▲/▼ to select a number, and press [↵].

6.7.2 Timer

Easily protect the screen by setting the timer to activate the afterimage burn-in prevention mode.

(**Bar** and **Eraser**)

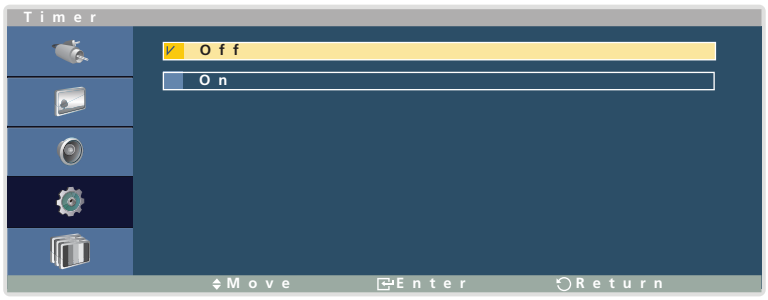
Setting Timer

This product can only be controlled by using the remote control.

1. Press **MENU** on the remote control.
2. Press ▲/▼ to move to **Setup** and press [↵].
3. Press ▲/▼ to move to **Safety Screen** and press [↵].
4. Press ▲/▼ to move to **Timer** and press [↵].

- **Timer**

  You can enable or disable the timer.



Press ▲/▼ to select the option you want and press [↵].

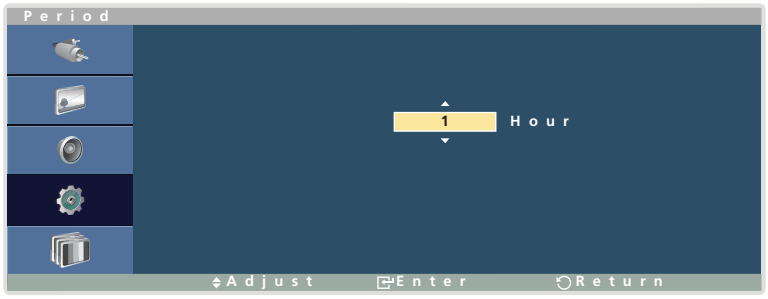
- **Mode**

  You can select mode from **Bar** or **Eraser**.

Press ▲/▼ to select the option you want and press [↵].

- **Period**

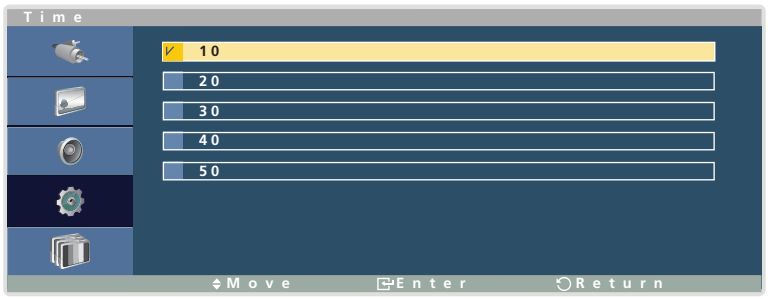
  You can set the time interval to activate the timer. (Range: 1 to 10 hours)



  Press ▲/▼ to select a number, and press [↵].

- **Time**

  You can set the time length you want to activate the timer at a specified interval. (10, 20, 30, 40 or 50 seconds)



  Press ▲/▼ to select a number, and press [↵].

6.7.3 Bar / Eraser

You can manually run the selected screen protection mode.

Setting Bar / Eraser

This product can only be controlled by using the remote control.

1. Press **MENU** on the remote control.
2. Press ▲/▼ to move to **Setup** and press [↵].
3. Press ▲/▼ to move to **Safety Screen** and press [↵].
4. Press ▲/▼ to move to **Bar** or **Eraser** and press [↵]. The afterimage burn-in prevention mode will immediately activate.
5. To deactivate the process and return to the menu screen, press [↩].

6.7.4 Side Gray

Select the brightness of the grey color for blank parts on the screen. (**Off** / **Light** / **Dark**)

Setting Side Gray

This product can only be controlled by using the remote control.

1. Press **MENU** on the remote control.
2. Press ▲/▼ to move to **Setup** and press [↵].
3. Press ▲/▼ to move to **Safety Screen** and press [↵].
4. Press ▲/▼ to move to **Side Gray** and press [↵].
5. Press ▲/▼ to move to the option you want and press [↵].
6. The selected option will be applied.

6.8 Resolution Select

If the picture is not normal even when the resolution of the graphics card is one of the following, you can optimize the picture quality by selecting the same resolution for the product as the PC using this menu.

Available resolutions: **Off** / **1024 x 768** / **1280 x 768** / **1360 x 768** / **1366 x 768**

6.8.1 Changing the Resolution (Resolution Select)

This product can only be controlled by using the remote control.

1. Press **MENU** on the remote control.
2. Press ▲/▼ to move to **Setup** and press [↵].
3. Press ▲/▼ to move to **Resolution Select** and press [↵].
4. Press ▲/▼ to move to the option you want and press [↵].
5. The selected option will be applied.

The **Resolution Select** option is only enabled when the input source is **PC**.

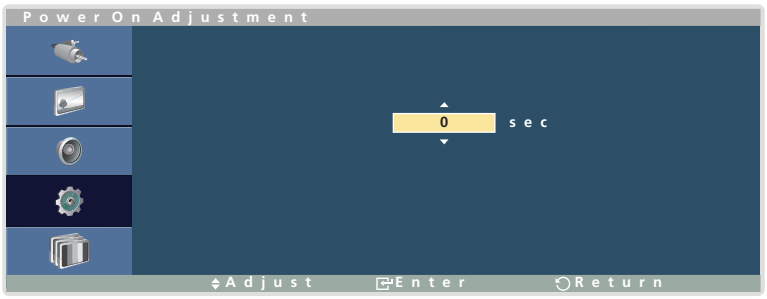
6.9 Power On Adjustment

You can set the warm-up time for the screen to turn on after the power button is pressed. (Range: 0 – 50 seconds)

6.9.1 Setting Power On Adjustment

This product can only be controlled by using the remote control.

1. Press **MENU** on the remote control.
2. Press ▲/▼ to move to **Setup** and press [↵].
3. Press ▲/▼ to move to **Power On Adjustment** and press [↵].
4. Press [↵], and select a warm-up time using the ▲/▼ button in the **Power On Adjustment** window.



5. The configured **Power On Adjustment** time will be applied.

A warm-up time that is too short may damage the product due to overvoltage.

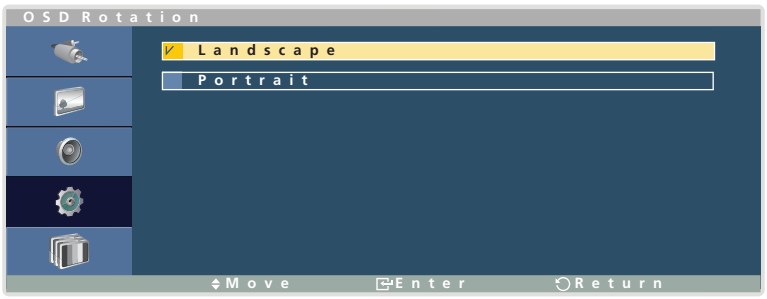
6.10 OSD Rotation

You can rotate and display the menu window in portrait mode when the product is in portrait orientation.

6.10.1 Changing the Menu Orientation (OSD Rotation)

This product can only be controlled by using the remote control.

1. Press **MENU** on the remote control.
2. Press ▲/▼ to move to **Setup** and press [↵].
3. Press ▲/▼ to move to **OSD Rotation** and press [↵].
4. Press ▲/▼ to move to the option you want and press [↵].



5. The selected option will be applied.

6.11 Advanced Settings

You can configure advanced settings for your display.

6.11.1 Temperature

Safeguard the product by using a protection feature that detects the internal temperature.

Configuring Temperature Control

This product can only be controlled by using the remote control.

1. Press **MENU** on the remote control.
2. Press ▲/▼ to move to **Setup** and press [↵].
3. Press ▲/▼ to move to **Advanced Settings** and press [↵].
4. Press ▲/▼ to move to **Temperature** and press [↵].

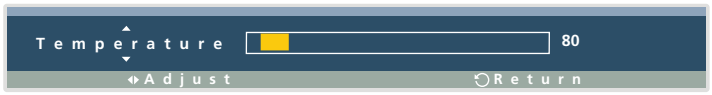
- **Temperature Control**

  This function detects the internal temperature of the product. You can specify the temperature range that is acceptable.

  The default temperature is set to 77˚C.

  The recommended operating temperature for this product is 75 to 80˚C (based on an ambient temperature of 40˚C).

  Refer to "page 148" for details about operating environment requirements.



  Press ▲/▼ to select a number, and press [↵].

  The screen will become darker if the current temperature exceeds the specified temperature limit. If the temperature continues to rise, the product will power off to prevent overheating.

- **Current Temperature**

  View the current internal temperature.

6.11.2 Auto Power

This function automatically turns on the power if the power cable is reconnected or the power switch (POWER S/W) on the back of the product is switched on. The product must be initially turned off with the power button on the remote control for this function to be available.

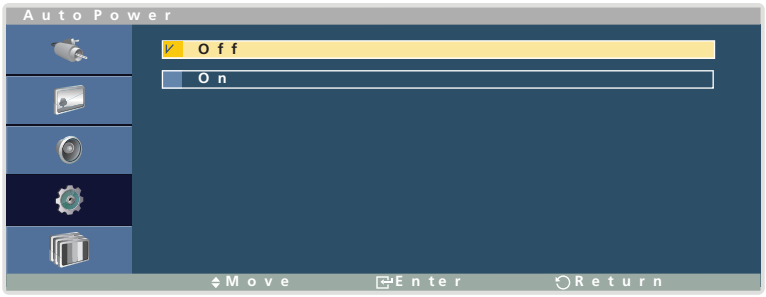
You do not need to press the power button to turn on the product.

Enabling this option will automatically power on the product if the power cable is connected.

Changing the Auto Power Setting

This product can only be controlled by using the remote control.

1. Press **MENU** on the remote control.
2. Press ▲/▼ to move to **Setup** and press [↵].
3. Press ▲/▼ to move to **Advanced Settings** and press [↵].
4. Press ▲/▼ to move to **Auto Power** and press [↵].
5. Press ▲/▼ to move to the option you want and press [↵].



6. The selected option will be applied.

6.11.3 User Auto Color

Setting User Auto Color

This product can only be controlled by using the remote control.

1. Press **MENU** on the remote control.
2. Press ▲/▼ to move to **Setup** and press [↵].
3. Press ▲/▼ to move to **Advanced Settings** and press [↵].
4. Press ▲/▼ to move to **User Auto Color** and press [↵].
5. Press ▲/▼ to move to the option you want and press [↵].
6. The selected option will be applied.

- **Auto Color**

  This menu automatically adjusts the picture color to obtain optimum picture quality.

- **Reset**

  Restore the default color settings.

  The **User Auto Color** option is only enabled when the input source is **PC**.

6.11.4 Standby Control

You can set the screen standby mode to be applied when an input signal is received.

Setting Standby Control

1. Press **MENU** on the remote control.
2. Press ▲/▼ to move to **Setup** and press [↵].
3. Press ▲/▼ to move to **Advanced Settings** and press [↵].
4. Press ▲/▼ to move to **Standby Control** and press [↵].
5. Press ▲/▼ to move to the option you want and press [↵].

- **Auto**

  Power-saving mode will activate if no input signals are detected even though a source device is connected to the display.

  The message "**No Signal**" will appear if no source device is connected.

- **On**

  Power-saving mode will activate if no input signals are detected.

- **Off**

  The message "**No Signal**" will appear if no input signals are detected.

6. The selected option will be applied.

- The **Standby Control** option is only enabled when **Source** is set to **PC** or **DVI**.
- If "**No Signal**" is displayed although a source device is connected, check the cable connection.
  Refer to page 53 for details about connecting source devices.

6.11.5 Lamp Schedule

Setting Lamp Schedule

- This product can only be controlled by using the remote control.
- You must set the clock first.

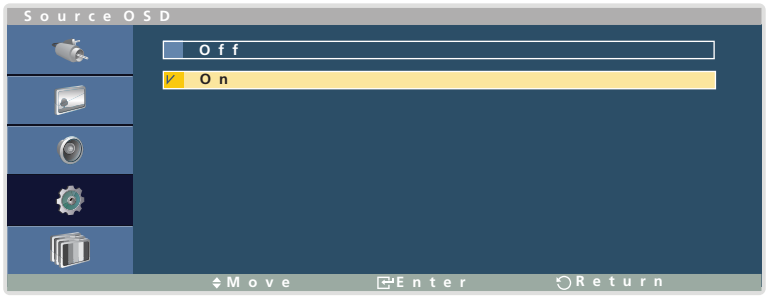
1. Press **MENU** on the remote control.
2. Press ▲/▼ to move to **Setup** and press [↵].
3. Press ▲/▼ to move to **Advanced Settings** and press [↵].
4. Press ▲/▼ to move to **Lamp Schedule** and press [↵].
5. Press [↵], and move to **On** using the ▲/▼ button and press [↵].
6. Configure the schedule settings enabled at the bottom using the direction keys.
7. Press [↵] when all settings are complete.
8. The selected option will be applied.

6.11.6 OSD Display

Changing the OSD Display Settings

This product can only be controlled by using the remote control.

1. Press **MENU** on the remote control.
2. Press ▲/▼ to move to **Setup** and press [↵].
3. Press ▲/▼ to move to **Advanced Settings** and press [↵].
4. Press ▲/▼ to move to **OSD Display** and press [↵].
   - **Source OSD**



Press ▲/▼ to select the option you want and press [↵].

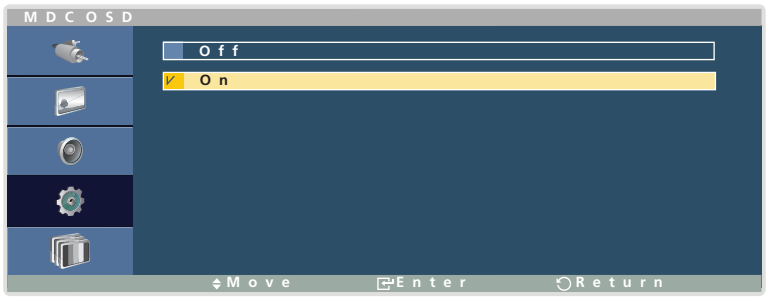
- **Not Optimum Mode OSD**

Press ▲/▼ to select the option you want and press [↵].

- **No Signal OSD**

Press ▲/▼ to select the option you want and press [↵].

- **MDC OSD**



Press ▲/▼ to select the option you want and press [↵].

6.12 Setup Reset

This option returns the current settings under Setup to the default factory settings.

6.12.1 Resetting Setup (Setup Reset)

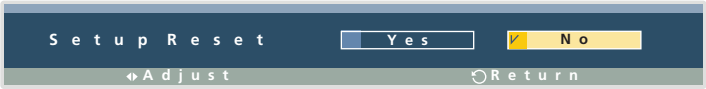
This product can only be controlled by using the remote control.

1 Press **MENU** on the remote control.

2 Press ▲/▼ to move to **Setup** and press [↵].

3 Press ▲/▼ to move to **Setup Reset** and press [↵].

4 Press ▲/▼ to move to the option you want and press [↵].



5 The selected option will be applied.

6.13 Reset All

This option returns all the current settings for a display to the default factory settings.

6.13.1 Resetting All Settings (Reset All)

This product can only be controlled by using the remote control.

1 Press **MENU** on the remote control.

2 Press ▲/▼ to move to **Setup** and press [↵].

3 Press ▲/▼ to move to **Reset All** and press [↵].

4 Press ▲/▼ to move to the option you want and press [↵].

5 The selected option will be applied.

7 Troubleshooting Guide

7.1 Requirements Before Contacting Samsung Customer Service Center

7.1.1 Testing the Product

Before calling Samsung Customer Service Center, test your product as follows. If the problem persists, contact Samsung Customer Service Center.

Check if your product is operating normally by using the product test function.

If the screen remains blank while the power LED blinks even when the product is correctly connected to a PC, perform product testing.

1. Power off both the PC and product.
2. Disconnect all the cables from the product.
3. Power on the product.
4. If "No Signal" is displayed, the product is operating normally.

   If the screen remains blank, check the PC system, video controller and cable.

7.1.2 Checking the Resolution and Frequency

"Not Optimum Mode" will briefly be displayed if a mode that exceeds a supported resolution is selected (refer to Supported Resolutions).

7.1.3 Check the followings.

Installation issue (PC mode)	
The screen keeps switching on and off.	Check the cable connection between the product and PC, and ensure the connection is secure. ("2.2 Connecting and Using a PC")
Blank spaces are found at the top and bottom of the screen when an HDMI or HDMI-DVI cable is connected to the monitor and PC.	Blank spaces on the screen are not caused by the monitor. The cause of the problem is the PC or graphics card, and can be fixed by adjusting the screen size in the HDMI or DVI option of the graphics card settings menu. If the graphics card settings menu has no option to adjust the screen size, update the graphics card driver to the latest version. (Please contact the graphics card or computer manufacturer for details on how to adjust the screen settings.)

Screen issue	
The power LED is off. The screen will not switch on.	Make sure that the power cord is connected. ("2.2 Connecting and Using a PC")
"**No Signal**" is displayed on the screen (refer to "Connecting to a PC").	Check that the product is connected correctly with a cable ("2.2 Connecting and Using a PC")
	Check that the device connected to the product is powered on.
"**Not Optimum Mode**" is displayed.	This message is displayed when a signal from the graphics card exceeds the product's maximum resolution and frequency.
	Refer to the Standard Signal Mode Table and set the maximum resolution and frequency according to the product specifications.
The images on the screen look distorted.	Check the cable connection to the product ("2.2 Connecting and Using a PC")

Screen issue	
The screen is not clear. The screen is blurry.	Adjust **Coarse** and **Fine**.
	Remove any accessories (video extension cable, etc) and try again.
	Set the resolution and frequency to the recommended level.
The screen appears unstable and shaky.	Check that the resolution and frequency of the PC and graphics card are set within a range compatible with the product. Then, change the screen settings if required by referring to the Additional Information on the product menu and the Standard Signal Mode Table.
There are shadows or ghost images left on the screen.	
The screen is too bright. The screen is too dark.	Adjust **Brightness** and **Contrast**.
Screen color is inconsistent.	Go to **Picture** and adjust the **Color Control** settings.
The colors on the screen have a shadow and are distorted.	Go to **Picture** and adjust the **Color Control** settings.
White does not really look white.	Go to **Picture** and adjust the **Color Control** settings.
There is no image on the screen and the power LED blinks every 0.5 to 1 second.	The product is in power-saving mode.
	Press any key on the keyboard or move the mouse to return to the previous screen.

Sound issue	
There is no sound.	Check the connection of the audio cable or adjust the volume ("2.2 Connecting and Using a PC")
	Check the volume.
The volume is too low.	Adjust the volume.
	If the volume is still low after turning it up to the maximum level, adjust the volume on your PC sound card or software program.
The sound is really flat.	Adjust **Treble** and **Bass**.

Remote control issue	
The remote control does not work.	Make sure that the batteries are correctly in place (+/-).
	Check if the batteries are flat.
	Check for power failure.
	Make sure that the power cord is connected.
	Check for any special lighting or neon signs switched on in the vicinity.

Source device issue	
A beeping sound is heard when my PC is booting.	If a beeping sound is heard when your PC is booting, have your PC serviced.

7.2 Q & A

Question	Answer
How can I change the frequency?	Set the frequency on your graphics card. • "Windows XP": Go to **Control Panel** → **Appearance and Themes** → **Display** → **Settings** → **Advanced** → **Monitor** and adjust the frequency in **Monitor Settings**. • "Windows ME/2000": Go to **Control Panel** → **Display** → **Settings** → **Advanced** → **Monitor** and adjust the frequency in **Monitor Settings**. • "Windows Vista": Go to **Control Panel** → **Appearance and Personalization** → **Personalize** → **Display Settings** → **Advanced Settings** → **Monitor** and adjust the frequency in **Monitor Settings**. • "Windows 7": Go to **Control Panel** → **Appearance and Personalization** → **Display** → **Adjust resolution** → **Advanced Settings** → **Monitor** and adjust the frequency in **Monitor Settings**.

Question	Answer
How can I change the resolution?	• "Windows XP": Go to **Control Panel** → **Appearance and Themes** → **Display** → **Settings** and adjust the resolution. • "Windows ME/2000": Go to **Control Panel** → **Display** → **Settings** and adjust the resolution. • "Windows Vista": Go to **Control Panel** → **Appearance and Personalization** → **Personalize** → **Display Settings** and adjust the resolution. • "Windows 7": Go to **Control Panel** → **Appearance and Personalization** → **Display** → **Adjust Resolution** and adjust the resolution.
How do I set power-saving mode?	• Windows XP: Set power-saving mode in **Control Panel** → **Appearance and Themes** → **Display** → **Screen Saver Settings** or BIOS SETUP on the PC. • Windows ME/2000: Set power-saving mode in **Control Panel** → **Display** → **Screen Saver Settings** or BIOS SETUP on the PC. • Windows Vista: Set power-saving mode in **Control Panel** → **Appearance and Personalization** → **Personalize** → **Screen Saver Settings** or BIOS SETUP on the PC. • Windows 7: Set power-saving mode in **Control Panel** → **Appearance and Personalization** → **Personalize** → **Screen Saver Settings** or BIOS SETUP on the PC.

Refer to the user manual for your PC or graphics card for further instructions on adjustment..

8.1 General

Model Name		320BX	400BX	460BX
Panel	Size	32 inches (80 cm)	40 inches (101 cm)	46 inches (116 cm)
	Display area	697.6845 mm (H) x 392.256 mm (V)	885.6 mm (H) x 498.15 mm (V)	1018.08 mm (H) x 572.67 mm (V)
Synchronization	Horizontal	30 ~ 81 kHz		
	Vertical	48 ~ 75 Hz		
Display Color		16.7 M		
Resolution	Optimum resolution	1366 x 768 @ 60Hz	1920 x 1080 @ 60 Hz	
	Maximum resolution	1920 x 1080 @60 Hz	1920 x 1080 @ 60 Hz	
Maximum Pixel Clock		148.5 MHz (Analog,Digital)		
Power Supply		This product uses 100 to 240V. Refer to the label at the back of the product as the standard voltage can vary in different countries.		
Signal connectors		Analog D-Sub(RGB In), DVI-D In, RS232C In, Stereo Audio In, DC Out		
Dimensions (W x H x D)		782.0 x 478.5 x 85.5 mm / 30.8 x 18.9 x 3.4 inches	969.0 X 582.0 X 91.0 mm / 38.1 x 22.9 x 3.6 inches	1102.0 x 656.8 x 91.4 mm / 43.4 x 25.9 x 3.6 inches
Weight		8.7 kg /19.2 lbs	13.8 kg / 30.4 lbs	17.6 kg / 38.8 lbs
VESA Mounting Interface		200 x 200 mm	400 x 400 mm	600 x 400 mm
Environmental considerations	Operating	Operating Temperature : 32˚F ~ 104˚F (0˚C ~ 40˚C) Humidity : 10 % ~ 80 %, non-condensing		
	Storage	Storage Temperature : -4˚F ~ 140˚F (-20˚C ~ 60˚C) Humidity : 5 % ~ 95 %, non-condensing		

Model Name	320BX	400BX	460BX
Plug-and-Play	This monitor can be installed and used with any Plug-and-Play compatible systems. Two-way data exchange between the monitor and PC system optimizes the monitor settings. Monitor installation takes place automatically. However, you can customize the installation settings if desired.		
Panel Dots (Pixels)	Due to the nature of the manufacturing of this product, approximately 1 pixel per million (1ppm) may be brighter or darker on the LCD panel. This does not affect product performance. The number of sub-pixels by LCD panel type: 32 type (80 cm screen) : there are 3,147,264 sub-pixels. The number of sub-pixels by LCD panel type: 40 type (101 cm screen), 46 type (116 cm screen) : there are 6,220,800 sub-pixels.		

The above specifications are subject to change without notice to improve quality.

Class A (business communications device)

This product is an EMC-registered Class A Device. This classification must be noted by vendors and users. This product is intended for use in non-home environments.

(USA Only)
Dispose unwanted electronics through an approved recycler.
To find the nearest recycling location, go to our website,
ww.samsung.com/recyclingdirect, or call (877) 278 - 0799

8.2 PowerSaver

The power-saving function of this product reduces power consumption by switching off the screen and changing the color of the power LED if the product is not used for a specified period of time. The power is not turned off in power-saving mode. To switch the screen back on, press any key on the keyboard or move the mouse. Power-savign mode only functions when the product is connected to a PC with a power-saving function.

State	Normal Operation	Power saving mode(DPM)	Power off	Power off (Power Switch)
Power Indicator	Green	Green blinking	Amber	off
Power Consumption (Typical)	320BX : 120 W 400BX : 180 W 460BX : 220 W	less than 1 W	less than 1 W	less than 0 W

- The displayed power consumption level can vary in different operating conditions or when settings are changed.
- To reduce the power consumption to 0, turn off the switch at the back or disconnect the power cord. Disconnect the power cable if you will not be using the product for an extended period of time (during vacation, etc.).

8.3 Preset Timing Modes

- This product can be set to only one resolution for each screen size to obtain the optimum picture quality due to the nature of the panel. Using a resolution other than the specified resolution may degrade the picture quality. To avoid this, it is recommended that you select the optimum resolution specified for your monitor.
- Check the frequency when you exchange a CDT monitor (connected to a PC) for an LCD monitor. If the LCD monitor does not support 85Hz, change the vertical frequency to 60Hz using the CDT monitor before you exchange it with the LCD monitor.

The screen will automatically be adjusted if a signal that belongs to the following standard signal modes is transmitted from your PC. If the signal transmitted from the PC does not belong to the standard signal modes, the screen may be blank with the power LED on. In such a case, change the settings according to the following table by referring to the graphics card user manual.

Display Mode	Horizontal Frequency (kHz)	Vertical Frequency (Hz)	Pixel Clock (MHz)	Sync Polarity (H/V)
IBM, 640 x 350	31.469	70.086	25.175	+/-
IBM, 720 x 400	31.469	70.087	28.322	-/+
IBM, 640 x 480	31.469	59.940	25.175	-/-
MAC, 640 x 480	35.000	66.667	30.240	-/-
MAC, 832 x 624	49.726	74.551	57.284	-/-
MAC, 1152 x 870	68.681	75.062	100.000	-/-
VESA, 640 x 480	37.861	72.809	31.500	-/-
VESA, 640 x 480	37.500	75.000	31.500	-/-
VESA, 800 x 600	35.156	56.250	36.000	+/+
VESA, 800 x 600	37.879	60.317	40.000	+/+
VESA, 800 x 600	48.077	72.188	50.000	+/+
VESA, 800 x 600	46.875	75.000	49.500	+/+
VESA, 848 x 480	31.020	60.000	33.750	+/+
VESA, 1024 x 768	48.363	60.004	65.000	-/-
VESA, 1024 x 768	56.476	70.069	75.000	-/-
VESA, 1024 x 768	60.023	75.029	78.750	+/+
VESA, 1152 x 864	67.500	75.000	108.000	+/+
VESA, 1280 x 768	47.776	59.870	79.500	-/+
VESA, 1280 x 960	60.000	60.000	108.000	+/+

Display Mode	Horizontal Frequency (kHz)	Vertical Frequency (Hz)	Pixel Clock (MHz)	Sync Polarity (H/V)
VESA, 1280 x 1024	63.981	60.020	108.000	+/+
VESA, 1280 x 1024	79.976	75.025	135.000	+/+
VESA, 1360 x 768	47.712	60.015	85.500	+/+
VESA, 1366 x 768	47.712	59.790	85.500	+/+
VESA, 1920 x 1080	67.500	60.000	148.500	+/+

Horizontal Frequency

The time required to scan a single line from the left to the right side of the screen is called a horizontal cycle. The reciprocal number of a horizontal cycle is called horizontal frequency. Horizontal frequency is measured in kHz.

Vertical Frequency

The monitor displays a single image multiple times per second (like a fluorescent light) to display what the viewer sees. The rate of a single image being displayed repeatedly per second is called vertical frequency or refresh rate. Vertical frequency is measured in Hz.

Contact SAMSUNG WORLDWIDE

If you have any questions or comments relating to Samsung products, please contact the SAMSUNG customer care center.

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CHILE	800-SAMSUNG (726-7864) From mobile 02-482 82 00	http://www.samsung.com
COLOMBIA	01-8000112112	http://www.samsung.com
COSTA RICA	0-800-507-7267	http://www.samsung.com
DOMINICA	1-800-751-2676	http://www.samsung.com
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HONDURAS	800-27919267	http://www.samsung.com
JAMAICA	1-800-234-7267	http://www.samsung.com
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PUERTO RICO	1-800-682-3180	http://www.samsung.com
TRINIDAD & TOBAGO	1-800-SAMSUNG (726-7864)	http://www.samsung.com
VENEZUELA	0-800-100-5303	http://www.samsung.com

Optimum Picture Quality and Afterimage Burn-in Prevention

Optimum Picture Quality

- To enjoy the optimum picture quality, go to Control Panel on your PC and adjust the resolution and refresh rate as follows. The picture quality of TFT-LCDs may degrade if the optimum resolution is not selected.

  32 inches
  - Resolution: 1366 x 768
  - Vertical frequency (refresh rate): 60Hz

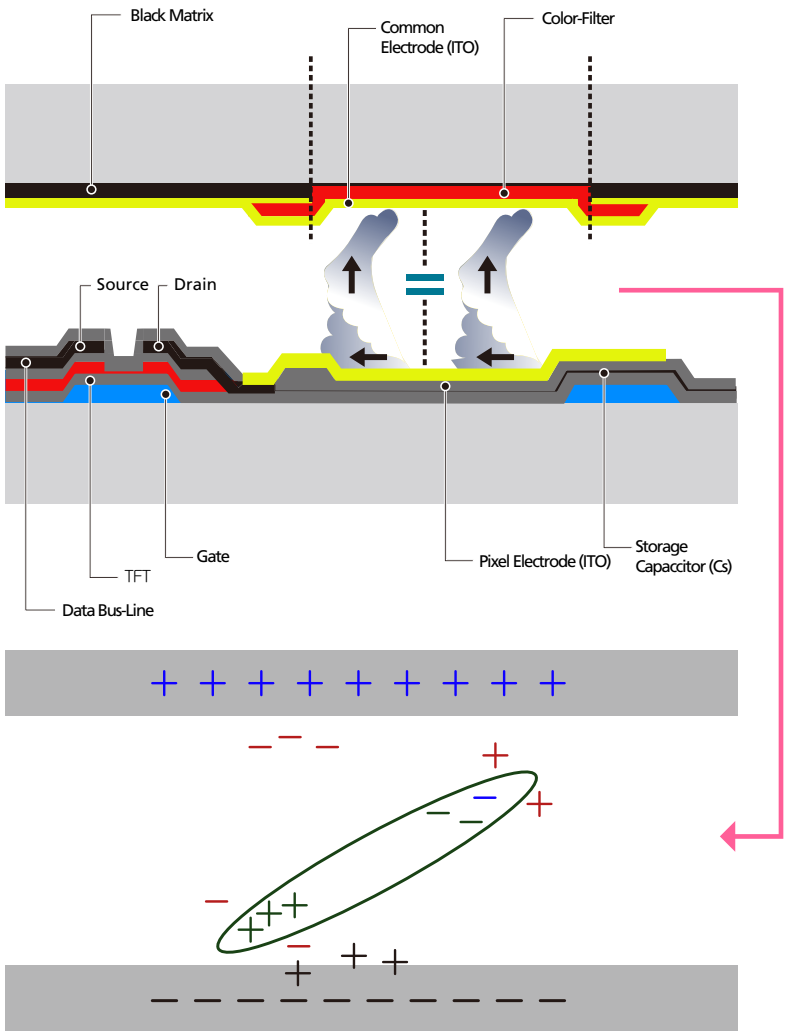
  40, 46 inches
  - Resolution: 1920 x 1080
  - Vertical frequency (refresh rate): 60Hz
- Due to the nature of the manufacturing of this product, approximately 1 pixel per million (1ppm) may be brighter or darker on the LCD panel. This does not affect product performance.
  - The number of sub-pixels by LCD panel type: 32 : 3,147,264
  - The number of sub-pixels by LCD panel type: 40, 46 : 6,220,800
- Run "**Auto Adjustment**" to improve the picture quality. If noise is still found even after auto adjustment, adjust **Coarse** or **Fine**.
- Leaving the screen fixed on a stationary image for an extended period of time may cause afterimage burn-in or defective pixels.
  - Activate power-saving mode or a dynamic screen saver if you will not be using the monitor for an extended period of time.
- Unlike CDT monitors, TFT-LCD monitors (due to the nature of the panel) can be set to only one resolution to obtain the optimum picture quality. Therefore, setting a resolution other than the specified resolution may degrade the picture quality. To avoid this, it is recommended that you select the optimum resolution specified for your monitor.

Prevention of Afterimage Burn-in

What is afterimage burn-in?

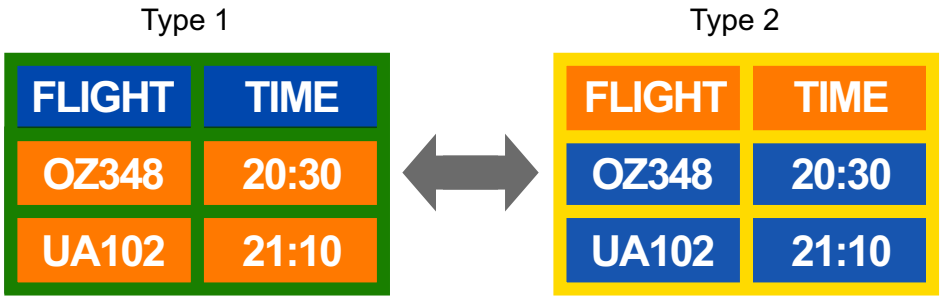
Afterimage burn-in should not occur when the LCD panel is operating normally. Normal operation refers to a continuously changing video pattern. If the LCD panel displays a fixed pattern for an extended period of time (more than 12 hours), a slight voltage difference may occur between the electrodes in pixels that control the liquid crystals.

Such a voltage difference between electrodes increases with time and makes the liquid crystals thinner. When this occurs, a previous image can remain on the screen when the pattern changes. To prevent this, the accumulated voltage difference should be reduced.



- Powering Off, Screen Saver and Power Saving Mode
  - Power off the product for 4 hours after using it for 20 hours.
  - Power off the product for 2 hours after using it for 12 hours.
  - Go to Display Properties > Power Supply on your PC and set the monitor to power off as required.
  - Using a screen saver is recommended.

    It is best to use a single-color or moving-image screen saver.
- Regular Color Change



Use 2 colors

Switch between 2 colors every 30 minutes as shown above.

- Avoid combinations of a text color and background color of contrasting brightness.

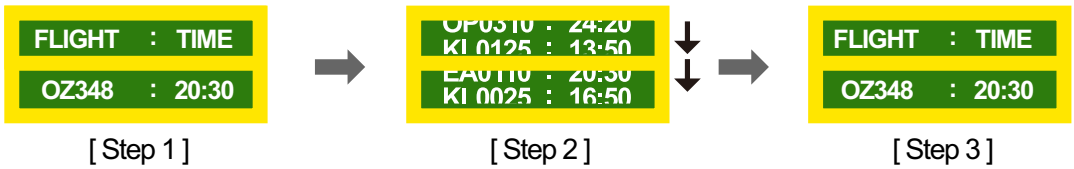
  Avoid using grey as it may contribute to afterimage burn-in.

  Avoid using colors of contrasting brightness (black and white; grey).

- Regular Text Color Change
  - Use bright colors of similar brightness.

    Interval: Change text color and background color every 30 minutes

  - Move and change text every 30 minutes as shown below.



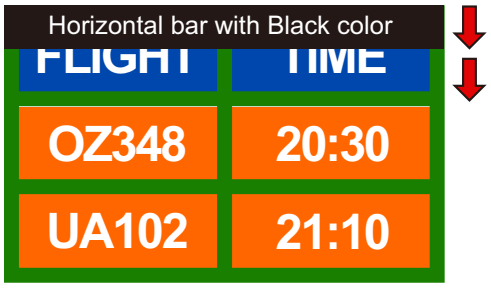
  - Regularly display a moving image along with a logo.

    Interval: Display a moving image along with a logo for 60 seconds after using for 4 hours.

- The best way to protect the monitor from afterimage burn-in is switching the power off or setting the PC or system to run a screen saver when not in use. Also, Warranty service may be limited depending on instruction guide.

- Screen Scroll Function
  - Screen Scroll

    Effect: A black bar moves horizontally.

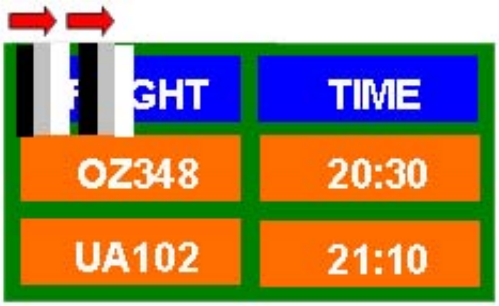


  - Screen Bar

    Effect: Two black bars move vertically and horizontally.

- Screen Delete Function
  - Screen Scroll

    Effect: A black bar moves horizontally.



Terminology

Dot Pitch

The monitor and screen consist of red, green and blue dots. A shorter distance between the dots produces a higher resolution. Dot pitch refers to the distance between the shortest distance between dots of the same color. Dot pitch is measured in millimeters.

Vertical Frequency

The monitor displays a single image many times per second (like a fluorescent light that flickers) to display an image for a viewer to see. The rate of a single image being displayed repeatedly per second is called vertical frequency or refresh rate. Vertical frequency is measured in Hz.

E.g. 60Hz refers to a single image being displayed 60 times in one second.

Horizontal Frequency

The time required to scan a single line from the left to the right side of the screen is called a horizontal cycle. The reciprocal number of a horizontal cycle is called horizontal frequency. Horizontal frequency is measured in kHz.

Non-interlace Mode and Interlace Mode

Non-interlace mode (progressive scan) displays a horizontal line from the top to the bottom of a screen progressively. Interlace mode displays the odd number lines first and the even number lines next. Non-interlace mode is mainly used in monitors as it produces screen clarity and interlace mode is mainly used in TVs.

Plug & Play

Plug & Play is a function that allows the automatic exchange of information between a monitor and PC to produce an optimum display environment. The monitor uses VESA DDC (international standard) to execute Plug & Play.

Resolution

Resolution is the number of horizontal dots (pixels) and vertical dots (pixels) that form a screen. It represents the level of display detail. A higher resolution enables more data to be displayed on the screen and is useful to perform multiple tasks simultaneously.

E.g. A resolution of 1920 X 1080 consists of 1,920 horizontal pixels (horizontal resolution) and 1,080 vertical pixels (vertical resolution).

Multiple Display Control (MDC)

MDC (Multiple Display Control) is an application that allows multiple display devices to be controlled simultaneously using a PC. Communication between a PC and monitor takes place using RS232C (serial data transmission) and RJ45 (LAN) cables.

DVD(Digital Versatile Disc)

DVD refers to a CD-sized mass storage disk where you can save multimedia (audio, video or game) applications using MPEG-2 video compression technology.

Stereo

Stereo refers to a technology that outputs audio signals via two channels. It delivers 3D sound experience through separate left and right audio channels over two speakers.

Source

Input source refers to a video source device connected to the product such as a camcorder or video or DVD player.

480i / 480p / 720p / 1080i / 1080p

Each of the scanning rates above refers to the number of effective scanning lines that decides the screen resolution. The scanning rate may be indicated in i (interlaced) or p (progressive), depending on the scanning method.

- Scanning

Scanning refers to a process of sending pixels that form an image progressively. A larger number of pixels will deliver a clearer and more vivid picture.

- Progressive

In progressive scan mode, all lines of pixels are scanned one by one (progressively) on the screen.

- Interlaced

In interlaced scan mode, every other line of pixels is scanned from top to bottom first and then the remaining lines of pixels (that were not scanned) are scanned.

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